AN ANALYSIS OF THE SUCCESS RATE OF AMERICAN INDIAN STUDENTS AS RELATED TO ENROLLMENT AT SELECTED INSTITUTIONS OF HIGHER EDUCATION

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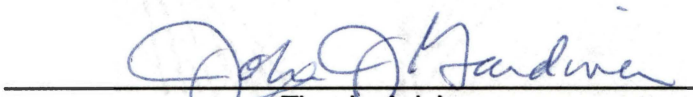

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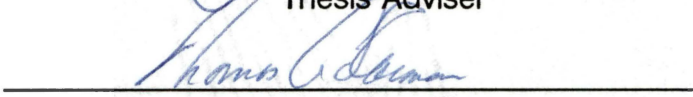

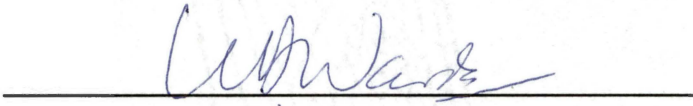

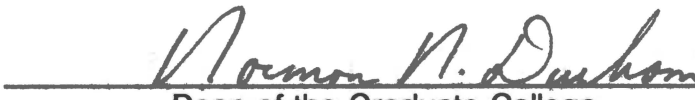

Dean of the Graduate College

PREFACE

This study was concerned with the success rate of American Indian students in selected institutions of higher education. The primary objective was to determine whether there were significant relationships among the number of degrees granted to American Indian students and their enrollments at those institutions of higher education that reported two percent or more American Indian or Alaskan native enrollment. A secondary objective was to determine whether there were significant relationships among the types of institutions of higher education as defined by the Carnegie Council typology and the number of degrees granted to American Indian students at those types of institutions.

I wish to express sincere appreciation to my doctoral committee: Dr. John Gardiner, thesis adviser, for his consultation; Dr. Carol Olson, for her encouragement; Dr. Thomas Karman, and to Dr. William Warde.

Words of appreciation are also extended to Dr. William Warde for his help with statistics; to Miss Carolyn Chopp, for typing and perennial encouragement; and to Mrs. Laura Nicholson for the expert care in typing the final draft and sharing the positive attitude.

And finally, special gratitude is appropriate for others who have continually supported my efforts: my son, Matthew, for his understanding when I wasn't there, and never knowing his mother "when she wasn't going to

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CHAPTER I

INTRODUCTION

There have not been many studies of American Indians and higher education, especially with regard to identifying the reasons for their dropping out of college. The dropout rate is higher for an Indian student than for the non-Indian one. According to Ross "probably not more than two out of five of those Indian students who attempt a college education will attain their goal" (Ross, 1979, p. 1). According to Astin's "Educational Pipeline," of the 55 percent of the American Indian students who complete high school, 17 percent will enter college, and two percent will persist to complete college (Astin, 1982, p. 51). The inability of the Indian student to adjust adequately to the college environment, not financial or academic difficulties, is the primary factor for withdrawal among Indian student attrition (Ross, 1979, p. 43). The transition from Indian society to college is, for most Indian students, a difficult task. Among high school graduates, the minority group whose members are least likely to go directly to college are American Indians (Astin, 1982, p. 39).

Research is needed in order to determine how the institution can best manipulate the environment in order to make the integration process easier for American Indian students. Colleges enrolling Indian students need to be aware of the importance of comprehensive guidance services in the educational

program of the Indian students. Developing within the educator a greater awareness of the Indian and his culture and a sensitivity to his concerns and cultural conflicts is one method of easing this transition and of increasing the Indian student's chances of successfully completing his college education.

Research Questions

This study will focus on two research questions:

(1) What types of institutions of higher education have the greatest success rates with regard to American Indian students?

(2) Are there significant relationships between the success rates of American Indian students and the percentage of their enrollment at institutions of higher education?

Definition of Terms

For the purpose of this study the following definitions will be used:

1. American Indian - American Indians are persons of Indian descent who consider themselves as Indians and who are so regarded in communities where they live. American Indian, Native American, and Indian are used synonomously.
2. Success rate - is defined as the percentage of Indian students receiving a degree within an institution of higher learning.

3. Types of institutions - refers to a Carnegie Council on Policy Studies in Higher Education typology with nine categories (Carnegie Council on Policy Studies in Higher Education, 1976) The rationale for choosing the 1976 Carnegie edition is that such institutional categories would be consistent with the first, 1976, Higher Education General Information Survey (HEGIS) conducted by the National Center for Education Statistics in 1976 and 1978, which is the data used in this study. Types of institutions consist of:

(1) Research Universities I. These 50 universities are leaders in terms of federal financial support for at least two of the three academic years from 1972 to 1974-75, provided they awarded at least 50 Ph.D.s in 1973-74;

(2) Research Universities II. These institutions are either on the list of the 100 leading institutions in terms of federal financial support in two of the above mentioned three academic years, provided they awarded at least 50 Ph.D.s in 1973-74, or are listed among the top 60 in terms of total Ph.D.s awarded between 1965-66 to 1974-75;

(3) Doctorate-Granting Universities I. These universities awarded 40 or more Ph.D.s in 1973-74 or received at least $3 million in total federal financial support in either 1973-74 or 1974-75;

(4) Doctorate-Granting Universities II. These institutions awarded at least 20 Ph.D.s in 1973-74 or are universities that may be expected to increase the number in a few years;

(5) Comprehensive Universities and Colleges I. These colleges and universities offer a liberal arts program and at least two professional courses of study. All of them either have no doctoral program or else an extremely limited one; most award master's degrees. Enrollments are 2,000 or more;

(6) Comprehensive Universities and Colleges II. These colleges and universities offer a liberal arts program and at least one professional course of study. Enrollments begin at 1,000 to 1,500;

(7) Liberal Arts Colleges I. These colleges have a strong liberal arts tradition. They scored 1030 or more on the Astin Selectivity Index, or were among the 200 leading baccalaureate-granting institutions in terms of numbers of their graduates receiving Ph.D.s at 40 leading doctorate-granting institutions from 1920-1966;

(8) Liberal Arts Colleges II. These are all the remaining liberal arts schools;

(9) The two-year colleges (Levine, 1978, pp. xxiii-xxv).

Limitations

The definition of Indian and estimates of Indian students vary widely, depending on the estimator, the use of the data, and the definition of Indian used. The National Center for Education Statistics (NCES) and census data use self-identification to determine who is Indian, leading to a very liberal definition of who is Indian, while the BIA at the other extreme uses one-quarter blood or more and being officially enrolled with a recognized tribe, leading to a conservative definition. The NCES/census definition affords no control over

those who are not Indian but who identify themselves as such. Most of the NCES data are collected from college registrars, who in turn rely on student survey forms, which are for the most part self-administered. Regardless, this study chooses to use self-identification as the criteria for being counted as American Indian.

Hypothesis

For the purpose of this study the following null hypothesis will be tested: (1) There is no significant difference between the success rate of American Indian students and the percentage of their enrollment in each of the nine Carnegie types of institutions of higher education.

CHAPTER II

REVIEW OF RELATED LITERATURE

This review of literature will include the following sections: (1) History of American Indian education; (2) Student attrition in higher education; and (3) American Indian student attrition in higher education.

History of American Indian Education

Missionary zeal was one of the earliest motives behind the education of the American Indian. Throughout the first three centuries of Indian-white contact, the Jesuits came by way of the St. Lawrence and centered their work around the Great Lakes, the Mississippi and its tributaries; while the Franciscans, of Spanish origin, entered the country mainly from the South. The Protestants were not to be left out, and the Virginia colonists soon began to think along these same lines.

King James I, on March 24, 1617, called upon the American clergy to collect money "for the erecting of some churches and schools for ye education of ye children of the barbarians in Virginia" (quoted in Berry, 1968, pp. 11). The following year the Virginia Council directed the governor of the colony to choose a site for building of "a College for the children of the Infidels," (Berry, 1968, pp. 11), and ten thousand acres were set aside for that purpose. A

considerable sum of money was raised in the colony and in England for the erection of a college, but a revolt of the Indians in 1622 brought a change of attitude, and it was not until 1691 that the College of William and Mary was finally chartered. In 1723 a house for Indian students was built that still stands on the William and Mary campus.

The colonists never doubted that formal education offered the best means of civilizing or converting the American Indian to Christianity, and provisions were made in the Charters of Harvard, Dartmouth, and Princeton, and in the Statutes of William and Mary for education of the Native Americans. To "conduce to the education of the English and Indian youth of this County in knowledge: and godliness" was one of the purposes of the founding of Harvard (Harvard Charter of 1650 quoted in Hofstadter and Smith, 1961, vol. I, p. 10). Eleazar Wheelock of Dartmouth had the American Indian in mind during his administration, and he is once to have said of his Indian students: "I have taken much Pains to purge all the Indian out of him, but after all a little of it will sometimes appear" (Wheelock quoted in Rudolph, 1962. p. 104).

As early as 1775 the Continental Congress appropriated five hundred dollars for the education of Indians at Dartmouth, and this was increased to five thousand dollars five years later. In 1819, under President Monroe, ten thousand dollars was appropriated by Congress for Indian education, and it was distributed to missionary groups for further disbursement since they administered most of the schools.

In 1870 with increased federal responsibility, Congress appropriated $100,000 for the operation of federal industrial schools. In 1879 the first off-reservation boarding school was established at Carlisle, Pennsylvania. In 1882 legislation was passed to convert army forts to Indian schools; in 1890 appropriations were made to cover cost of tuition for Indians attending public schools.

Two distinct Indian school systems in terms of historical perspective and workability were obliterated as functional educational systems in the early part of the twentieth century. The Cherokee and Choctaw Nations developed very successful educational systems run by Indians, with curricula articulated by Indians. They produced significant numbers of students who went to college. The Cherokee Nation achieved literacy rates both in their native tongue and in English of up to ninety percent. By 1852, the Cherokees had a flourishing school system of twenty-one schools, two academies, and an enrollment of eleven hundred. Only a little later than the Cherokees, the Choctaws established the Choctaw Academy, and it flourished from 1825 until 1842. These systems were not merely successful experiments, but successful school systems of seventy years duration in the case of the Cherokee.

These academies were soon followed by Creek, Chickasaw, and Seminole tribal school systems. These last three tribes were the remainder of what has been termed the "Five Civilized Tribes" that were removed from their eastern homelands to what is now Oklahoma. These three school systems

never achieved the prominence of the Cherokee and Choctaw systems (Foreman, C. T., 1928, 1931, 1932).

In the 1920's the Meriam report found the shortcomings of Indian education numerous and serious. It declared that "the whole Indian problem is essentially an educational one," and regarded as necessary "the training of all Indians for the best type of American citizenship, looking to their absorption into the general citizenship of the Nation" (Brookings Institute, 1928, p. 112). To a considerable extent, the report led to the placement of Indian children and youth in public school systems of the states.

At one time the Federal government limited itself mainly to the secondary and elementary education of the American Indian, especially in the form of boarding schools. At one time the boarding schools were maintained in a custodial manner, and took, occasionally by force, even elementary-age children far from their families. The speaking of one's native language was expressly forbidden and a punishable offense. While it seemed that much of the supervision and curricula was not to tribal liking, there was not a movement from the local level to abandon boarding schools. These schools have served a purpose, but their focus has changed and they are gradually being phased out in favor of day schools and public education for the majority of Indian students, with few still attending private mission schools.

Since the 1950's the federal government and the Bureau of Indian Affairs (BIA) extended its efforts to include monies for grants to students to attend institutions of higher education. College and university provisions for Indians

increased greatly after World War II, when large numbers of returning veterans took advantage of postsecondary education. The number of Indian college students increased dramatically since the 1970's, and almost half of these students were enrolled in two-year colleges (Chavers, 1979, p. 3).

Sheldon Jackson College was founded as a training school for Alaskan Natives in 1878 by the United Presbyterian Church. "Indian University" was founded by the American Baptist Church in the Creek Nation in 1880; it moved to Muskogee in 1885 and became known as Bacone College. In 1887, North Carolina established a normal school for Indian students; in 1969 it became Pembroke State University. No additional efforts were undertaken to establish Indian colleges until the 1960's.

The idea that Indians should have increased control over their education was a theme throughout much of the literature. The Meriam Report of 1928 urged the involvement of the Indian community as did the 1969 Kennedy report, "Indian Education: A National Tragedy--A National Challenge." The Indian Education act of 1972, along with the Self-Determination and Education Assistance Act of 1975, which provided for Indian participation in government programs for Indian people, were milestones of Indian control and self-determination. The Tribally Controlled Community College Assistance Act of 1978 attempted to provide resources to Indian tribes for establishing and improving tribal colleges.

In 1966, BIA officials planned for federally-sponsored Indian colleges, when studies were begun to extend Haskell Institute's high school program into

a junior college, offering the first two years of a college curriculum; this effort took four years, resulting in Haskell becoming accredited in 1970. Other BIA-administered colleges included the Institute for American Indian Arts in Santa Fe, New Mexico, and the Southwestern Polytechnic Institute, established in Albuquerque in 1973.

In addition to state-established and BIA colleges, and those with religious affiliation, the Navajo Nation began a major step in self-determination with the establishing of Navajo Community College in 1968. This has become the common method of establishing Indian colleges, as more than a dozen tribes have established tribal colleges with Indian community boards of trustees. Although Navajo Community College was initiated as an independent tribal institution, the smaller (and less affluent) tribes have most often affiliated themselves with larger, accredited colleges, either as branch campuses or extension centers of majority institutions. In this manner, a public institution such as Oglala Sioux Community College evolved from its original affiliated status with Black Hills State College and the University of South Dakota into formal accredited status in its own capacity; Sinte Gleska College, a private institution, has also moved from its ties to Black Hills and the University of South Dakota to similar accredited status. Other tribes have begun to organize and administer tribal colleges and Indian institutions.

The relative recency and dependency upon majority institutions, however, has stifled the development of Indian colleges, for demographic and political reasons, and most have moved toward independent, accredited status

whenever possible. Unfortunately, the status of many of these institutions was uncertain, and the list of some twenty-five or thirty of these was fluid. In particular, the rural isolation, limited service area, lack of property tax bases, and federal funding stipulations and methods have slowed the growth of the Indian colleges individually and collectively.

Student Attrition in Higher Education

The act of dropping out of college appears to be a process students become involved in over a period of time. Dropping out can be a process of interaction of the student and his environment, the student and the institution, and the student and his social environment. Individuals enter institutions, as with any endeavor, bringing with them all their experiences, attributes and problems, all of which affect their college careers. Tinto, commenting upon these phenomena, said that, "given individual characteristics, prior experiences, and commitments, it is the individual's integration into the academic and social systems of the college that most directly relates to continuance in that college" (Tinto, 1975, p. 96).

Tinto, in his study of dropouts from higher education, stated that the "lack of integration into the social systems of the college will lead to low commitment to that social system and will increase the probability that individuals will decide to leave college and pursue alternative activities" (Tinto, 1975, p. 94). The suggestion posited by Tinto is that the characteristics an individual takes to college are going to influence the degree of social and

academic integration of the individual into college life. He further states that in the interactive system of a college, almost any institutional action, whether in admissions, counseling, advising, academic programs, or student life will eventually affect student persistance and will do so in often unintended and quite unexpected ways (Tinto, 1987, p. 181).

McNeely conducted one of the first nation-wide studies of student failures in institutions of higher learning. His data were based on a sample of 15,535 students in twenty-five universities. The data were analyzed with regard to gross mortality which included all leaving students without regard to transfer or later continuation and net mortality which included students who dropped out and did not return later or transfer (McNeely, 1938, p. 104). McNeely observed: "For the universities as a whole a gross mortality of 62.1% was found and a net mortality of 45.2%" (McNeely, 1938, p. 104).

Iffert's study of the national drop-out problem in higher education was another major study. From an approximate 1,600 eligible institutions varying in geographical location, size and type, one hundred forty-seven representative schools of higher education comprised the cooperating sample. About 13,700 students representative of the various institutions, who enrolled in the fall of 1950, were the basis for the figures. Iffert observed: "Based upon this sampling . . .about six out of ten freshmen will eventually receive degrees" (Iffert, 1957, p. 106).

In one study Alexander Astin looked at the tendency to drop out of college before completing the baccalaureate degree (Astin, 1968, p. 219). He

conducted a four-year longitudinal study of 6,660 high school students. It was found that students who drop out of college come from lower socioeconomic backgrounds, have lower ranks in high school, plan initially to get lower college degrees, and apply for relatively fewer scholarships than do students who do not drop out. Personality measures suggested that dropouts tend to be more aloof, self-centered, and assertive than non-dropouts (Astin, 1968, p. 219). Astin's study concluded in 1975 that 10.9% of the students are "stop-outs" and 24.3% are dropouts (Astin, 1975, p. 3, p. 10).

Pantages and Creedon in their survey of attrition studies in higher education concluded that on a nationwide basis three out of every ten students who enroll in college will never earn a four-year degree, and six out of ten will not earn a four-year degree within the expected four years at the college in which they initially enrolled (Pantages and Creedon, 1978, p. 49).

Facts consistently found throughout the literature of college persistence and non-persistence were reinforced by Increasing Student Retention (Noel, 1985). Obstacles, which vary in difficulty depending on the institution and major, are formidable and call upon students' preparation, academic skills, motivation, adjustment skills, and frustration tolerance. Just as their are external and internal forces that influence a student's decision to go to college, there are those that mitigate against academic success.

American Indian Student Attrition

Tinto suggested that past experience and family contribute a great deal

of influence on outcome and therefore play a decided role in whether an individual succeeds in college (Tinto, 1975, p. 94). According to Tinto: "A student should feel comfortable in his environment to do well academically" (Tinto, 1975, p. 94). One of the conclusions of Suarez was that "the higher degree of integration into the university community, the more likely American Indian students were to persist. The lower degree of integration into the university community, the less likely were students to persist" (Suarez, 1981, p. 79).

The most complete study of the social environment of the school was that of Wax, Wax, and Dumont's Formal Education in an American Indian Community. Among the various aspects of that environment which they describe was the crucial role of the peer group. No doubt one's peers are important in all groups, and especially so for youth; but peers seem to exert an inordinant degree of pressure with Indians. The Wax study described various functions which peer groups assume and which "in other societies, they would not perform or would share with others" (Wax, Wax, and Dumont, 1964, p. 112). In addition, there is some evidence that the racial composition of the institutions that students attend affects student attrition and progression patterns and mediates the relationship between race and performance (Gosman, et. al., 1983, p. 221).

Research by Bass and Burger pertaining to dropouts of Indian students showed that below the college level they are nearly double those of the non-Indian students. Statistically fifty percent of the Indians quit high school prior to

graduation compared to twenty-nine percent for non-Indians. At the higher education level the percentages are even worse reportedly as high as sixty percent and above (Bass and Burger, 1969, p. 4). An additional study conducted by Bass of a random sample of Indians graduating from Southwest Indian high schools disclosed that but seven percent went on to complete college (Bass, 1969, p. 16). Another method of measuring the high school to college movement of students is to track the linear flow. The annual average linear flow for Native Americans is 17.6 percent, when all students moved at a 36.3 percent rate. Again, the Native American movement into college was only half that of the general population based on five years of data. No other race or ethnic group approaches this low level of high school to college movement (Oklahoma State Regents for Higher Education, 1984, p. 11).

Edington reviewed research on academic achievement of American Indian students and concluded: "Nearly all the studies reviewed showed the American Indian students to be far behind the other students in achievement" (Edington, 1969, p. 2). He also pointed out that: "The research has seemed to indicate that generally the gap between the levels of achievement of the white and Indian student widens as they progress through school" (Edington, 1969, p. 3). This fact is reinforced by Astin (Astin, 1982, p. 51).

Coombs, Kron, Collister, and Anderson conducted a study on student achievement, which was significant if only in numbers involved. Information was drawn from 23,608 students--fifty-eight percent of whom were Indians. Differences were found among groups of students of different races attending

different types of schools. In general, a hierarchy established itself: (1) white pupils in public schools, (2) Indian pupils in public schools, (3) Indian pupils in federal schools, (4) Indian pupils in mission schools. (Coombs, Kron, Collister, Anderson, 1958, p. 2) The descending order of achievement of these students was attributed to the decreasing ". . .cultural advantage they enjoyed with respect to such things as language, motivation, and out-of-school learning opportunities" (Coombs, Kron, Collister, and Anderson, 1958, p. 5).

For American Indians, Astin found an overall dropout rate at least seven percent higher (at thirty-one percent) than that of whites (at twenty-four percent), while in four-year colleges Indian students' attrition rates (at twenty-eight percent) was ten percent higher than whites (at eighteen percent) (Astin, 1975, p. 26). The General Accounting Office (GAO) estimated in 1977 that ninety percent of the Indian students funded by the BIA education grants did not complete a four-year degree (compared to forty-six percent of non-Indians). These figures may be inflated due to the large number of Indian college students who received no BIA funds and consequently are not in their records (GAO, 1977, p. 10). Weinberg stated that "Indian students were strangers on the college campus . . . at Black Hills State College in South Dakota, to which Indian students came from seven nearby reservations, the dropout rate was said to be eighty percent in 1964" (Weinberg, 1977, p. 339). According to Haskell's Dean of Instruction, as many as 85 percent of the Indian students who enroll, do not graduate (Lyons, 1989, p. 1).

Havighurst reviewed literature pertaining to the intellectual and cultural backgrounds of American Indians with implications for education. According to Havighurst, the contemporary Indian was a man of two cultures. Reviewing an earlier study that he conducted with Bernice L. Neugarten which concerned the effect of parallel but different cultures on Navajo children, Havighurst stated:

> Truly they are growing up to be people of two cultures, subject to two contrasting kinds of education; and they must make their own combination or synthesis of the two cultures and the two kinds of education (Havighurst, 1970, p. 108).

Havighurst speaking of Indian college attendance, said:

> Very few high school graduates go on to college . . . In 1936 about one out of fifty Indian high school graduates found his way to college, while in 1950, one in six of the five hundred ninety-seven graduates of Indian service high schools entered college (Havighurst, 1970, p. 46).

One of the conclusions of Havighurst's study was that "Indians who were most successful in school, especially in secondary and higher education, have committed themselves to learning and accepting the dominant culture" (Havighurst, 1970, p. 108).

McGrath's research explored dropout problems in general and Indian dropout problems in particular. He cited nationwide studies of student failure in higher education from the one made by McNeely in 1937 to several reported in 1962. He summarized, "Principal factors in the literature relating to success and failure to Indian students in higher education:"

1. Indians have the same ability as white people.
2. Cultural factors, especially language and values are basic to the problems of Indian students in the dominant culture.

3. Indian students are typically one to two years behind their contemporaries in the dominant culture with respect to academic progress.

4. Federal Indian service high schools are of a "special school" nature and their standards are not commensurate with those of regular public high schools.

5. Attending a college and university is often the first extensive contact with white culture that many Indian students have.

6. Problems regarding skill in the use of the English language and problems of social adjustment are basic factors for Indian college student mortality.

7. Indian students who are most successful in higher education have committed themselves to learning and accepting the dominant culture or have completely identified with white society (McGrath, 1962, pp. 30-31).

In McGrath's study he included any identified Indian students in the four-state area (New Mexico, Arizona, Utah, and Colorado) who dropped out between September, 1958 and February, 1962. The schools with the largest absolute number of dropouts are: University of New Mexico, Arizona State University, Arizona State College, Ft. Lewis A & M, and Brigham Young University, the number descended in that order (McGrath, 1962, p. 215). These same schools ranked on the basis of highest number of dropouts as a percentage of the Indians in school were: University of New Mexico, Arizona State University, Arizona State College, Brigham Young University and Ft. Lewis. Northern Arizona University, as recent as fall, 1988, who attracted 232 new Native American students admit to having problems retaining them. Indians, not only at NAU, but across the country, have the biggest drop-out rate of any minority group (Cohen, 1989, p. 7).

Patton's four-year study was intended to identify factors related to persistence of Indians in higher education (Patton, 1972, p. vi). A random sampling was conducted among thirty percent of the 449 Indian students enrolled at the University of New Mexico and New Mexico State University between the fall semester 1967 and spring semester 1971. It was found that persisters were apt to be those who: (1) were female rather than male; (2) were enrolled before age nineteen; (3) attended a large public high school rather than a small, non-public one; (4) ranked in the upper one-third of their graduating high school class; (5) scored seventeen or above in English, mathematics, and social science on the ACT; (6) chose professional fields of preparation; (7) maintained an average grade point of "C" or better; and (8) enrolled for greater numbers of semester hours (Patton, 1972, pp. 102-103).

Quimby's study was conducted to ascertain and analyze select cultural, social economic, and academic problems faced by Indian students as they pursued their college careers in Arizona. The social variables investigated in Quimby's study were listed as follows:

1. Does student have any close friends?
2. How many close friends were Indians?
3. Does this student have any roommates?
4. How many roommates were Indians?
5. Number of club and school activities?
6. Number of active assignments in clubs or other school activities?
7. Smoking?

8. Drinking?

9. Eating?

10. Dancing? (Quimby, 1963, pp. 90-91)

The largest mean differences between successful and non-successful Indian college students was obtained on variable two (the number of close friends who were Indians). The mean difference indicated that the non-successful students had more close friends (Quimby, 1963, p. 91).

Ross studied the Yakima Indian Nation and concluded that:

> ...a number of specific factors of culture do exist for Yakima students in higher education; that there is an attrition rate of about eighty-five percent for these students; and the two measures of immersion in Yakima culture (quantum of Indian blood and attendance at an all-Indian high school) correlated with higher attrition rates (Ross, 1979, p. vi).

Selinger's study traced what happened to particular Indian high school graduates in post high school training and employment experiences. "The target population was comprised of all the American Indian graduates of senior high schools as of June, 1962, from the six-state region of Oregon, Washington, Idaho, Montana, North Dakota, and South Dakota" (Selinger, 1968a, p. 6). Interviews were conducted with each of the Indians contacted--two hundred eighty-seven persons of a potential of five hundred seventy, or 50.4% (Selinger, 1968a, p. 8).

Selinger found that 70% of the graduates continued on to academic or training programs, but only about half finished their programs. The majority of the students who finished did so in fields other than those initially entered, mostly in technical-vocational rather than academic. While the number of high

schools students who continued on to college seemed high (seven of each ten students), those graduates represented only half of those who should have finished high school (Selinger, 1968a, p. 78).

Salisbury reports that at the University of Alaska in reference to Alaskan Natives that more than "fifty percent of them are likely to drop out at the end of their freshman year, and less than two percent of them are likely to receive the baccalaureate degree at the end of four years" (Salisbury, 1967, p. 7).

Ludeman made a study of the college records of one hundred twelve Indian students who had attended Southern State Teachers College in South Dakota over a period of thirty-three years from 1925 to 1958. One important finding of his study related to the fact that fifty percent of the Indian students who attended Southern State Teachers College of South Dakota were in attendance for one year or less (Ludeman, 1960, p. 335).

Most Indian students entered as college students with definite disadvantages. The Coleman Report, based on a nation-wide study conducted in 1965, showed the median score for American Indian students in twelfth grade to be well below the national median score. In verbal ability, fifty percent of the Indian students scored at the twenty-fifth percentile or lower; in reading comprehension, half of the Indian scores were at the thirty-fifth percentile or lower; in the general information test, half of the Indian students scored at or below the thirtieth percentile (Coleman et. al., 1966, pp. 242-251).

But these academic disadvantages alone did not seem to account for the high attrition rate of Indian students. A 1977 study of Indian students who

received assistance from the Bureau of Indian Affairs (BIA) with educational grants reported that the mean ACT score for Indian students who earned a bachelor's degree was very similar to the mean score for all Indian freshmen, both dropouts and graduates (1973 through 1976). Graduates scored at the twenty-third percentile on the ACT while freshmen were at the eighteenth percentile (GAO, 1977, p. 27). While sixty-nine percent of the freshmen had scores at or below the twenty-third percentile, fifty percent of the graduates also had scores at or below the twenty-third percentile (GAO, 1977, p. 27). These statistics inferred that even if all Indian students scored above the fiftieth percentile on the college entrance tests, a significant attrition problem would still exist.

Spang listed problems generally encountered by Indians in their college programs. He categorized these problems into eight broad areas: (1) lack of money; (2) irrelevant curricula; (3) lack of qualified Indians in Indian education; (4) insensitive school personnel; (5) concepts, principles, and objectives of American education systems which are foreign to those espoused by Indian students; (6) lack of Indian involvement in the control of educational matters; (7) college and university programs which do not deal effectively with the problems and needs of Indian students; and (8) instant Indian education experts (Spang, 1970, pp. 1-4). Our ability to understand, appreciate, and encourage the diversity of our students depends in part on the knowledge we have about their cultures, histories, values and beliefs (Wilson, 1988, p. 14).

Based on a survey of the Indian education problems in the Northwest, Wasson reported that many eligible Indian youths would not talk to the BIA officer because he wanted only to talk about vocational training, where they often desired to study specific subjects like law, veterinary medicine, history or education. He also viewed "lack of familiarity with white culture and distrust of white institutions" as "probably the greatest deterrent to continued education among Indians" (Wasson, 1970, p. 278). Wasson concluded:

> Like other people, Indians do not like to fail; thus rather than take a chance on failure in an institution where there is little chance for him to succeed, he refuses to compete and thus never obtains a college education (Wasson, 1970, p. 279).

Despain's doctoral study, conducted in 1963-64 among seventy-nine Navajo students at the Intermountain School at Brigham City, Utah, attempted ". . .to analyze male Navajo students' perception of occupational opportunities and their attitudes toward development of skills and traits necessary for successful employment in off-reservation occupations" (Despain, 1965, p. 104). Despain concluded that more students may fail in their work because of social problems and lack of understanding with their employers than from lack of basic skills (Despain, 1965, p. 40).

Brewton Berry was one of the first to survey what was known about Indian higher education (Berry, 1968, pp. 77-93). He identified six factors commonly cited in the literature as being related to the success of Indian students in higher education. Two of these related to academic preparation; and the other three factors (related to college environment, home background, and finances) have produced very inconsistent findings. Only one factor

emerged as having a consistently clear relationship to college success: "There is clear evidence that values and value conflict are related to achievement" (Berry, 1968, p. 77).

In Artichoker and Palmer's study they attempted to determine and analyze the problems encountered by Indian students in colleges and universities in South Dakota (Artichoker and Palmer, 1959, pp. 1-47). Part of their procedure involved dividing the Indian students into two categories based upon their knowledge or lack of knowledge, respectively, of an Indian language. On entering college, both groups seemed to miss friends more than they missed their families. Also another interesting finding, as a result of their survey, was that twenty percent of the Indian students preferred to associate with Indian people rather than white people (Artichoker and Palmer, 1959, p. 47). About half of each group replied that they had received no helpful information relating to the registration of students in college. According to Berry, the one overriding finding of the Artichoker and Palmer study was not only that "Indians have distinctive problems, but that their problems are more troublesome to them, and more serious than they are to non-Indians" (Berry, 1968, p. 105).

Ross found that between 1972 and 1977, 628 persons attended postsecondary schools from the Yakima tribe. Of the 628 Yakima Indian students, 230 were still attending postsecondary institutions when her data was gathered, leaving 398 who were either graduates or dropouts. Of these 398, two earned certificates at technical schools, twelve earned two-year degrees,

but no higher degree, and forty-four earned four-year degrees. This left 340 students who can be classified as dropouts, making a dropout rate of 85.4% for two- and four-year degrees. In comparison with the generally stated attrition rate of about thirty-five percent for four-year degrees (Astin, 1975, p. 10), this figure "is certainly an affirmative of a severe problem of attrition among the Yakimas" (Ross, 1979, p. 222).

Ross further related that of these students, they all attended institutions of the dominant culture except those who attended Haskell Junior College. This two-year school was run by the BIA for Indian students. Of the forty-six Yakima students who attended Haskell, the graduation rate was 17.4% (Ross, 1979, p. 224). Of the Yakima students who attended two-year colleges of the dominant culture fourteen graduated of the 203 attending. This was a graduation rate from all two-year colleges of 6.9% (Ross, 1979, p. 224). For the individual Yakima, the kindred was "the principle factor for socialization, validation of social status, social control and maintenance of social ties" (Schuster, p. 100, quoted in Ross, 1979, p. 178).

Summary

Government responsibility for educating the Indian had survived since the establishment of this country. The policy was shifted from one of wardship to one of self-determination for the American Indian. American Indian students have had an unfortunate educational history. The Indian student had rarely been successful. From elementary school through higher education, the

American Indian student's retention rate decreased even more. There is a decline in the parity of Indian enrollment. Indian enrollments in college are declining even as the Indian population grows (Tijerina and Biemer, 1988, p. 88).

The issue of student attrition faced students from all groups; minority students were not alone in this respect, though many of their problems were unique. Alfred stated that colleges were concerned about ". . .the salvage, redirection, and retention of students from diverse ability, achievement, and socioeconomic subcultures of American society" (Alfred, 1972, p. 1).

Much of the research implied that students of different backgrounds needed different kinds of circumstances to enable them to achieve their potential competence. The review of literature suggested that persistence and/or non-persistence was due to a great number of interrelated factors such as student characteristics, conflicts between the student and institution, and family matters. The cultural orientation that a student took to an institution of higher education appeared to affect progress in school. Ross stated that "culture conflict emerges again and again from the literature as a crucial factor in the higher education experiences of American Indian students" (Ross, 1979, p. 43).

In the review of literature, much of what has been written since the mid 1980's seemed to be reemphasizing previous research or reptitive by nature. Much of the literature on minority students was upon closer inspection that

directed toward the larger minorities, the Black or African American student and the Hispanic (Cuban, Chicano, Puerto Rican).

> More effective education requires taking more clear accounting of differences among students and acting accordingly . . .and sound decisions about what is needed must derive from knowledge of where a student is, where he wants to go, and what equipment he brings for the trip . . .When significant differences are ignored, some students will be missed entirely, and many barely touched (Chickering, 1969, p. 285).

Leitka hypothesized that if institutions had Native American programs or studies, some of the cultural conflict problems would be alleviated through the presence of Indians as counselors, faculty members, and student peers. His research bore out this assumption, showing that while institutions without Indian Studies programs had attrition rates of around 80%, those with special programs for Indian students had much lower attrition rates (Leitka, 1973, p. 91). Leitka asserted in his study that, "those schools with native studies programs are attracting a larger number of Indian students and at the same time are decreasing the dropout rate among Indians . . ." (Leitka, 1973, p. 63).

Research suggested that American Indian students had a proportionately small percentage of representation in American institutions of higher education. Of those students who did go on, literature indicated very few persist and eventually earn a degree. The review of literature suggested that an Indian student needed additional support when he left the Indian community to enter the world of higher education. He needed support to overcome the myriad difficulties he had when his distinct cultural background and need met and intermingled with the college environment. Part of this support group was

formed by others enrolled at the institution, especially other American Indian students. Almost half of higher education's potential Native American enrollment seems to be lost to the system, even before they get to the system. Whether it be lower economic status, rural orientation, a lack, of retention in high school, racial discrimination, or a combination of any, all, or other is not known; but before students can graduate they must be retained (Oklahoma State Regents for Higher Education, 1984, p. 45).

CHAPTER III

METHODOLOGY

Description of the Population and Sample

The population to which the results of this study were generalized was comprised of those individuals who identified themselves as American Indian and who were enrolled in institutions of higher education in the United States. The sample consisted of institutions that were surveyed for the Higher Education General Information Survey (HEGIS) conducted by the National Center for Education Statistics in 1976 and 1978. All institutions that received federal financial assistance in the fifty states, the District of Columbia and outlying area of the United States were included by the Office of Civil Rights under authorization of section 80.6(b) of the Regulations implementing Title VI of the Civil Rights Act of 1964 and similar provisions implementing Title IX of the Education Amendments of 1972.

A correlational study was used to conduct this investigation. "Correlational research attempts to determine whether, and to what degree, a relationship exists between two or more quantifiable variables" (Gay, 1981, p. 13). The design controls the basic structure of the research effort which will gather and analyze the data in certain ways (Gay, 1981, p. 69).

Using two percent or more American Indian enrollment as a criterion resulted in 183 institutions being selected from the 1976 data and 184 institutions being selected from the 1978 data for inclusion in this study. There were 81 matched pairs of institutions common to the two groups.

Data Collection

Data were collected as part of the twelfth annual Higher Education General Information Survey (HEGIS) from all institutions receiving Federal funds (except military academies) in the fifty states, the District of Columbia and outlying areas.

Data on the number and sex of minority students enrolled in institutions of higher education comprised the first biennial report for 1976/77. Data were shown for American Indian and Alaskan Native, black/non-Hispanic, Asian or Pacific Islander, Hispanic, total minority, white/non-Hispanic, and non-resident alien students at each institution. Each set of data was presented in percentages and as raw data. All institutions that had two percent or more American Indian undergraduate enrollment were selected for inclusion in this study.

Data on degrees awarded by individual institutions of higher education, by race or ethnic group and sex of recipient comprises the first biennial report for 1976/77. Data are shown for American Indian and Alaska Native, black, Asian and Pacific Islander, Hispanic, total minority, non-resident alien, and white/non-Hispanic recipients; by level of degree and major field of study. The

next biennial report was published in 1978, and it was the final report published due to budget cuts.

Data Analysis

After all institutions reporting two percent or more American Indian enrollment for each of the 1976 and 1978 biennial reports were manually selected, and the following data collected for each institution: the number of American Indian students enrolled; the percentage of American Indian students enrolled; the number of female American Indian students enrolled; the percentage of female American Indian students enrolled; the number of male American Indian students enrolled; and the percentage of male American Indian students enrolled were entered into the computer for later computer analysis. Also entered for each of those selected institutions was the number of degrees granted to American Indian students; the percentage of degrees granted to American Indian students; the number of degrees granted to female American Indian students; the percentage of degrees granted to female American Indian students; the number of degrees granted to male American Indian students; and the percentage of the number of degrees granted to male American Indian students.

After the institution of higher education was selected for inclusion in the study since it had reported two percent or more American Indian enrollment, the institution was found in the list of A Classification of Institutions of Higher Education (Carnegie Council on Policy Studies in Higher Education, 1976). The combination of Research Universities Type I and II resulted in the code letter A

for these institutions listed in that category. The Doctorate Granting Universities Type I and Type II were combined to result in code letter B. Comprehensive Universities and Colleges Type I and Type II resulted in being coded with the letter C. Liberal Arts Colleges Type I and Type II were coded letter D. Two Year Colleges and Institutions were coded letter E. All other institutions of higher education were grouped under the heading "Other" and coded letter F. All of the institutions that were so grouped according to the Carnegie Classification System were further labeled according to their control status, designating it either private or public control. Those with public control were coded letter P, and private control were coded letter R. These codes were assigned for ease in entering the data for computer analysis. The data were then analyzed using the computer and the appropriate programs from SAS (Statistical Analysis Systems, 1985). The results of these computations are reported in Chapter IV.

CHAPTER IV

RESULTS

Introduction

The purpose of this chapter is to present the results of the statistical analysis for the data collected in this study. More specifically, the hypothesis was tested concerning the success rate of American Indian students and the percentage of their enrollment in each of the nine Carnegie types of institutions of higher education. There were a total of 183 institutions of higher education, 143 publically controlled and forty-three privately controlled, reporting two percent or more American Indian enrollment in 1976. In 1978, there were a total of 184 institutions, 142 publically controlled and forty-two privately controlled, reporting two percent or more American Indian enrollment. These data are shown in Table I and Table II, pages 37-38.

Presentation and Analysis of Data

In this study, the following null hypothesis was tested using the Pearson Product-Moment Correlation Technique:

TABLE I

CARNEGIE TYPE OF CONTROL
1976 DATA

Carnegie Type		Public P	Private R	Total
A				
Research Universities	Frequency	3	0	3
	Percent	1 64	0.00	1.64
	Row Pct	100.00	0.00	
	Col Pct	2.14	0.00	
B				
Doctorate Granting Universities	Frequency	5	0	5
	Percent	2.73	0.00	2.73
	Row Pct	100.00	0.00	
	Col Pct	3.57	0.00	
C				
Comprehensive Universities and Colleges	Frequency	30	2	32
	Percent	16 39	1.09	17.49
	Row Pct	93.75	6.26	
	Col Pct	21.43	4 25	
D				
Liberal Arts Colleges	Frequency	2	20	22
	Percent	1.09	10.93	12.02
	Row Pct	9.09	90.91	
	Col Pct	1.43	46.51	
E				
Two-Year Colleges and Institutions	Frequency	98	15	113
	Percent	53.55	8.20	61.75
	Row Pct	86 73	13.27	
	Col Pct	70.00	34.88	
F				
Other Institutions of Higher Education	Frequency	2	6	8
	Percent	1.09	3.28	4.37
	Row Pct	25.00	75.00	
	Col Pct	1.43	13.95	
Total	Frequency	140	43	183
Total	Percent	76.50	23 50	100 00

TABLE II

CARNEGIE TYPE OF CONTROL
1978 DATA

Carnegie Type		Public P	Private R	Total
A				
Research Universities	Frequency	2	0	2
	Percent	1.09	0 00	1.09
	Row Pct	100 00	0.00	
	Col Pct	2.14	0.00	
B				
Doctorate Granting Universities	Frequency	3	0	3
	Percent	1 63	0.00	1.63
	Row Pct	100.00	0 00	
	Col Pct	2.11	0.00	
C				
Comprehensive Universities and Colleges	Frequency	27	3	30
	Percent	14.67	1 63	16.30
	Row Pct	90 00	10.00	
	Col Pct	19 01	7.14	
D				
Liberal Arts Colleges	Frequency	2	17	19
	Percent	1.09	9.24	10.33
	Row Pct	10.53	89.47	
	Col Pct	1.41	40 48	
E				
Two-Year Colleges and Institutions	Frequency	106	13	119
	Percent	57 61	7.07	64 67
	Row Pct	89 08	10.92	
	Col Pct	74 65	30.95	
F				
Other Institutions of Higher Education	Frequency	2	9	11
	Percent	1.09	4.89	5.98
	Row Pct	18.18	81.82	
	Col Pct	1.41	21.43	
Total	Frequency	142	42	184
Total	Percent	77.17	22.83	100.00

There is no significant association between the success rate of American Indian students and the percentage of their enrollment in each of the nine Carnegie types of institutions of higher education.

All tests of significance were set at the 0.05 level. The continuous nature of the data lent itself to the Pearson Product-Moment. When the Pearson Product-Moment Correlation analysis was performed to determine whether there was a significant association between the twelve variables, a correlation matrix was created for each of the nine Carnegie types of institutions under either public or private control. Special attention was focused on the relationship between total number of American Indian students enrolled and total of degrees granted to American Indian students as well as the percentage of American Indian students enrolled and percentage of degrees granted to American Indian students. For categories of institutions where the N was three or less, it was decided that there were not enough data to warrant further study. The 1976 data: Type A, Control P (Research Universities, Public Control) where N was three; and the 1978 data, Type B, Control P (Doctorate Granting University, Public Control) where N was three are included in Appendix A.

Table III, page 38, shows the Pearson Product-Moment Correlation among the twelve variables: total Indian enrollment; percent of Indians enrolled; total female Indian enrollment; percent female Indian enrollment; total male Indian enrollment; percent male Indian enrollment; total degrees granted to Indians; percent degrees granted to Indians; number of degrees granted to

TABLE III

1976 DATA CORRELATION MATRIX

TYPE=B CONTROL=P

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00 0.0	-0.67 0.21	0.99 0.0001	-0.68 0.20	0.99 0.0001	-0.64 0.24	-0.55 0.31	-0.68 0.21	-0.90 0.04	-0.70 0.19	0.05 0.93	0.67 0.22
PCIND	-	1.00 0.0	-6.78 0.21	0.99 0.0001	-0.66 0.22	0.99 0.0002	0.31 0.61	0.98 0.003	0.78 0.19	0.99 0.002	-0.28 0.65	0.89 0.04
TOT_F_NA	-	-	1.00 0.0	-0.69 0.20	0.99 0.0001	-0.65 0.24	-0.53 0.35	-0.68 0.211	0.89 0.04	-0.70 0.19	0.07 0.91	-0.66 0.22
PC_F_NA	-	-	-	1.00 0.0	-0.68 0.21	0.99 0.001	0.36 0.55	0.98 0.003	0.80 0.10	0.99 0.002	-0.23 0.70	0.91 0.03
TOT_M_NA	-	-	-	-	1.00 0.0	-0.64 0.25	-0.56 0.32	-0.68 0.21	-0.90 0.04	-0.70 0.19	0.03 0.96	-0.67 0.22
PC_M_NA	-	-	-	-	-	1.00 0.0	0.27 0.66	0.98 0.004	0.75 0.14	0.99 0.001	0.32 0.60	0.87 0.05
TOTDEG	-	-	-	-	-	-	1.00 0.0	0.45 0.45	0.78 0.12	0.38 0.52	0.78 0.12	0.68 0.20
PCDEG	-	-	-	-	-	-	-	1.00 0.0	0.84 0.07	0.99 0.0003	-0.12 0.85	0.96 0.01
DEG_F	-	-	-	-	-	-	-	-	1.00 0.0	0.83 0.09	0.22 0.72	0.90 0.04
PC_F	-	-	-	-	-	-	-	-	-	1.00 0.0	-0.20 0.74	0.93 0.02
DEG_M	-	-	-	-	-	-	-	-	-	-	1.00 0.0	0.18 0.78
PC_M	-	-	-	-	-	-	-	-	-	-	-	1.00 0.0

female Indians; percent degrees granted to female Indians; number of degrees granted to male Indians; and percent degrees granted to male Indians. For 1976 data on Type B (Doctorate Granting Universities), Control P (Public Control) where N is 5, there is a strong correlational (r=.98) between the percent of Indian students reported enrolled and the percent of degrees awarded to Indian students. There is also a moderately negative correlation (r=-.55) between the total number of Indian students reported enrolled and the total degrees awarded to Indian students.

For 1976 data, see Table IV, page 40, on Type C, Control P (Comprehensive Universities and Colleges, Public Control), where N was 30, there was a strong correlation (r=.91) between the percent of Indians enrolled and the percent of degrees awarded to Indian students. There is also a high correlation (r=.95) between the number of Indian students reported enrolled and the total degrees awarded to Indian students.

For 1978 data, for the same type of institution, Type C, Control P (Comprehensive Universities and Colleges, Public Control), where N is 27, there is a strong correlation (r=.92) between the percent of Indians enrolled and the percent of degrees awarded to Indian students. There is also a high correlation (r=.93) between the number of Indian students reported enrolled and the total degrees awarded to Indian students. These data are shown in Table V, page 41.

Reported 1976 data for Type D, Control R (Liberal Arts Colleges, Private Control), where N was 20, there was a moderate relationship (r=.59) between

TABLE IV

1976 DATA CORRELATION MATRIX

TYPE=C CONTROL=P

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00 0.0	0.59 0.0006	0.99 0.0001	0.52 0.003	0.98 0.0001	0.66 0.0001	0.95 0.0001	0.49 0.01	0.92 0.0001	0.41 0.03	0.95 0.0001	0.54 0.002
PCIND	-	1.00 0.0	0.68 0.0001	0.98 0.0001	0.47 0.009	0.97 0.0001	0.56 0.001	0.91 0.0001	0.58 0.0007	0.85 0.004	0.51 0.004	0.87 0.0001
TOT_F_NA	-	-	1.00 0.0	0.62 0.0003	0.95 0.0001	0.73 0.0001	0.94 0.0001	0.58 0.001	0.92 0.0001	0.50 0.005	0.92 0.0001	0.61 0.0003
PC_F_NA	-	-	-	1.00 0.0	0.39 0.03	0.92 0.0001	0.50 0.005	0.91 0.0001	0.52 0.003	0.88 0.0001	0.44 0.02	0.85 0.0001
TOT_M_NA	-	-	-	-	1.00 0.0	0.55 0.002	0.94 0.0001	0.38 0.04	0.89 0.0001	0.29 0.12	0.95 0.0001	0.45 0.014
PC_M_NA	-	-	-	-	-	1.00 0.0	0.62 0.0002	0.84 0.0001	0.64 0.0002	0.75 0.0001	0.58 0.007	0.86 0.0001
TOTDEG	-	-	-	-	-	-	1.00 0.0	0.52 0.003	0.98 0.0001	0.44 0.02	0.97 0.0001	0.59 0.0003
PCDEG	-	-	-	-	-	-	-	1.00 0.0	0.55 0.002	0.97 0.0001	0.46 0.01	0.94 0.0001
DEG_F	-	-	-	-	-	-	-	-	1.00 0.0	0.48 0.007	0.91 0.0001	0.58 0.0008
PC_F	-	-	-	-	-	-	-	-	-	1.00 0.0	0.35 0.06	0.82 0.0001
DEG_M	-	-	-	-	-	-	-	-	-	-	1.00 0.0	0.56 0.001
PC_M	-	-	-	-	-	-	-	-	-	-	-	1.00 0.0

TABLE V

1978 DATA CORRELATION MATRIX

TYPE=C CONTROL=P

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00 0.0	0.60 0.001	0.99 0.001	0.56 0.002	0.98 0.0001	0.63 0.0004	0.93 0.0001	0.57 0.002	0.91 0.0001	0.53 0.0043	0.94 0.0001	0.69 0.0009
PCIND	-	1.00 0.0	0.68 0.0001	0.98 0.01	0.48 0.0001	0.98 0.0001	0.70 0.0001	0.92 0.0001	0.72 0.0001	0.90 0.0002	0.66 0.004	0.91 0.0001
TOT_F_NA	-	-	1.00 0.0	0.65 0.0002	0.95 0.0001	0.70 0.0001	0.95 0.0001	0.64 0.0003	0.93 0.0001	0.60 0.0008	0.95 0.0001	0.67 0.0001
PC_F_NA	-	-	-	1.00 0.0	0.44 0.02	0.94 0.0001	0.65 0.0002	0.91 0.0001	0.67 0.0001	0.92 0.0001	0.61 0.0007	0.87 0.0001
TOT_M_NA	-	-	-	-	1.00 0.0	0.53 0.004	0.89 0.0001	0.47 0.01	0.87 0.0001	0.42 0.03	0.91 0.0001	0.51 0.007
PC_M_NA	-	-	-	-	-	1.00 0.0	0.73 0.0001	0.91 0.0001	0.74 0.0001	0.86 0.0001	0.70 0.0001	0.92 0.0001
TOTDEG	- .	-	-	-	-	-	1.00 0.0	0.74 0.0001	0.99 0.0001	0.68 0.0001	0.99 0.0001	0.77 0.0001
PCDEG	-	-	-	-	-	-	-	1.00 0.0	0.76 0.0001	0.97 0.0001	0.70 0.0001	0.98 0.0001
DEG_F	-	-	-	-	-	-	-	-	1.00 0.0	0.71 0.0001	0.97 0.0001	0.77 0.0001
PC_F	-	-	-	-	-	-	-	-	-	1.00 0.0	0.63 0.0004	0.90 0.0001
DEG_M	-	-	-	-	-	-	-	-	-	-	1.00 0.0	0.74 0.0001
PC_M	-	-	-	-	-	-	-	-	-	-	-	1.00 0.0

the percent of Indians enrolled and the percent of degrees awarded to Indian students. There is also a moderately high relationship (r=.80) between the number of Indian students reported enrolled and the total degrees awarded to Indian students. These data are shown in Table VI, page 43.

The same category of institution, in 1978, Type D, Control R (Liberal Arts Colleges, Private Control) where N was 17, there was a moderate relationship (r=.67) between the percent of Indians enrolled and the percent of degrees granted to Indian students. There was also a strong relationship (r=.85) between the number of Indians enrolled and the number of degrees awarded to Indian students. These data are shown in Table VII, page 44.

By far, the largest category in 1976, reporting two percent of more Native American enrollment, Type E, Control P (Two Year Colleges and Institutions, Public Control), with an N of 98, showed a strong relationship (r=.96) between the percent of Indians enrolled and the percent of degrees granted to Indian students. But, there was only a moderate relationship (r=.60) between the number of Indians enrolled and the number of degrees granted to Indian students. These data are shown in Table VIII, page 45.

In 1978, the largest category reporting two percent or more Native American enrollment, Type E, Control P (Two Year Colleges and Institutions, Public Control), with an N of 106, showed only a moderately high relationship (r=.77) between the percent of Indian students enrolled and the percent of degrees granted to Indian students. There was only a moderate relationship (r=.54) between the number of Indian students enrolled and the number of

TABLE VI

1976 DATA CORRELATION MATRIX

TYPE=D CONTROL=R

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00 0.0	0.64 0.002	0.98 0.0001	0.61 0.005	0.91 0.0001	0.54 0.01	0.80 0.0001	0.61 0.004	0.81 0.0001	0.67 0.001	0.55 0.0001	0.41 0.08
PCIND	-	1.00 0.0	0.66 0.001	0.95 0.0001	0.51 0.02	0.86 0.0001	0.47 0.035	0.59 0.006	0.50 0.02	0.62 0.004	0.29 0.21	0.46 0.04
TOT_F_NA	-	-	1.00 0.0	0.64 0.003	0.82 0.0001	0.53 0.02	0.73 0.0003	0.55 0.01	0.77 0.0001	0.63 0.003	0.45 0.05	0.33 0.15
PC_F_NA	-	-	-	1.00 0.0	0.46 0.04	0.67 0.001	0.43 0.06	0.54 0.01	0.46 0.04	0.61 0.004	0.26 0.26	0.37 0.10
TOT_M_NA	-	-	-	-	1.00 0.0	0.49 0.03	0.84 0.0001	0.66 0.002	0.79 0.0001	0.68 0.0009	0.68 0.0009	0.51 0.02
PC_M_NA	-	-	-	-	-	1.00 0.0	0.41 0.07	0.53 0.02	0.43 0.6	0.48 0.03	0.26 0.27	0.52 0.02
TOTDEG	-	-	-	-	-	-	1.00 0.0	0.88 0.0001	0.94 0.0001	0.88 0.0001	0.82 0.0001	0.89 0.0008
PCDEG	-	-	-	-	-	-	-	1.00 0.0	0.85 0.0001	0.94 0.0001	0.69 0.0007	0.88 0.0001
DEG_F	-	-	-	-	-	-	-	-	1.00 0.0	0.90 0.0001	0.57 0.008	0.56 0.01
PC_F	-	-	-	-	-	-	-	-	-	1.00 0.0	0.60 0.006	0.69 0.0007
DEG_M	-	-	-	-	-	-	-	-	-	-	1.00 0.0	0.70 0.0006
PC_M	-	-	-	-	-	-	-	-	-	-	-	1.00 0.0

TABLE VII

1978 DATA CORRELATION MATRIX

TYPE=D CONTROL=R

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00 0.0	0.66 0.004	0.97 0.0001	0.60 0.01	0.88 0.0001	0.51 0.04	0.85 0.0001	0.76 0.0005	0.84 0.0001	0.58 0.01	0.62 0.007	0.45 0.07
PCIND	-	1.00 0.0	0.66 0.004	0.96 0.0001	0.56 0.02	0.63 0.007	0.42 0.09	0.67 0.003	0.44 0.08	0.69 0.002	0.26 0.32	0.36 0.16
TOT_F_NA	-	-	1.00 0.0	0.64 0.006	0.73 0.0008	0.38 0.14	0.81 0.0001	0.77 0.0003	0.84 0.0001	0.60 0.01	0.51 0.03	0.42 0.09
PC_F_NA	-	-	-	1.00 0.0	0.41 0.10	0.42 0.09	0.31 0.23	0.63 0.007	0.37 0.14	0.71 0.001	0.09 0.73	0.20 0.45
TOT_M_NA	-	-	-	-	1.00 0.0	0.69 0.002	0.78 0.0002	0.58 0.01	0.68 0.003	0.44 0.08	0.73 0.0009	0.4 0.08
PC_M_NA	-	-	-	-	-	1.00 0.0	0.45 0.07	0.39 0.12	0.36 0.15	0.36 0.15	0.49 0.05	0.41 0.10
TOTDEG	-	-	-	-	-	-	1.00 0.0	0.80 0.0001	0.95 0.0001	0.48 0.05	0.79 0.0001	0.62 0.007
PCDEG	-	-	-	-	-	-	-	1.00 0.0	0.86 0.0001	0.84 0.0001	0.43 0.08	0.47 0.05
DEG_F	-	-	-	-	-	-	-	-	1.00 0.0	0.65 0.004	0.56 0.02	0.42 0.09
PC_F	-	-	-	-	-	-	-	-	-	1.00 0.0	0.003 0.99	-0.02 0.95
DEG_M	-	-	-	-	-	-	-	-	-	-	1.00 0.0	0.82 0.0001
PC_M	-	-	-	-	-	-	-	-	-	-	-	1.00 0.0

TABLE VIII

1976 DATA CORRELATION MATRIX

TYPE=E CONTROL=P

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00 0 0	0.45 0.0001	0.99 0.0001	0.43 0.0001	0.99 0.0001	0.45 0.0001	0.60 0.0001	0.42 0.0001	0.62 0.0001	0.42 0.0001	0.53 0.0001	0.42 0.0001
PCIND	-	1.00 0.0	0.47 0.0001	0.99 0.0001	0.42 0.0001	0.97 0.0001	0.69 0.0001	0.96 0.0001	0.71 0.0001	0.96 0.0001	0.61 0.0001	0.96 0.0001
TOT_F_NA	-	-	1.00 0.0	.45 0.0001	0.96 0.0001	0.46 0.0001	0.57 0.0001	0.44 0.0001	0.61 0.0001	0.44 0.0001	0.49 0.0001	0.43 0.0001
PC_F_NA	-	-	-	1.00 0.0	0.39 0.0001	0.94 0.0001	0.68 0.0001	0.95 0.0001	0.71 0.0001	0.95 0.0001	0.60 0.0001	0.94 0.0001
TOT_M_NA	-	-	-	-	1.00 0.0	0.44 0.0001	0.61 0.0001	0.40 0.0001	0.61 0.0001	0.40 0.0001	0.56 0.0001	0.40 0.0001
PC_M_NA	-	-	-	-	-	1.00 0.0	0.66 0.0001	0.94 0.0001	0.68 0.0001	0.93 0.0001	0.59 0.0001	0.94 0.0001
TOTDEG	-	-	-	-	-	-	1.00 0.0	0.76 0.0001	0.96 0.0001	0.76 0.0001	0.96 0.0001	0.75 0.0001
PCDEG	-	-	-	-	-	-	-	1.00 0.0	0.77 0.0001	0.99 0.0001	0.68 0.0001	0.99 0.0001
DEG_F	-	-	-	-	-	-	-	-	1.00 0.0	0.79 0.0001	0.85 0.0001	0.75 0.0001
PC_F	-	-	-	-	-	-	-	-	-	1.00 0.0	0.67 0.0001	0.97 0.0001
DEG_M	-	-	-	-	-	-	-	-	-	-	1.00 0.0	0.69 0.0001
PC_M	-	-	-	-	-	-	-	-	-	-	-	1.00 0.0001

degrees granted to Indian students. These data are shown in Table IX, page 47.

The data reported for 1976, Type E, Control R (Two Year Colleges and Institutions, Private Control) with an N of 15, showed a moderate relationship (r=.54) between the percentage of degrees granted to Indian students and the percentage of Indians enrolled in these institutions. Also, a moderate relationship (r=.52) was shown between the number of Indian students enrolled and the number of degrees granted to Indian students. These data are shown in Table X, page 48.

For reported data for 1978, Type E, Control R (Two Year Colleges and Institutions, Private Control), with an N of 13, a moderate relationship (r=.57) was shown between the percentage of Indian students enrolled and the percentage of degrees granted to Indian students. No significant relationship (r=.49) was shown between total Indian students enrolled and total degrees granted to Indian students. These data are shown in Table XI, page 49.

The 1976 reported data Type F, Control R (Other, Private Control), for that type of institution, with a reported N of 6, showed no relationship (r=-.05) between the percentage of degrees granted to Indians and the percentage of their enrollment. There was a strong relationship (r=.94) between the number of Indian students enrolled and the number of degrees granted to Indian students. These data are shown in Table XII, page 50.

The Type F, Control R (Other Institutions, Private Control) with an N of 9, reporting two percent or more Native American enrollment in 1978, showed a

TABLE IX

1978 DATA CORRELATION MATRIX

TYPE=E CONTROL=P

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00 0.0	0.38 0.0001	0.98 0.0001	0.36 0.0001	0.97 0.0001	0.42 0.0001	0.54 0.0001	0.28 0.004	0.56 0.0001	0.40 0.0001	0.53 0.0001	0.42 0.0001
PCIND	-	1.00 0.0	0.44 0.0001	0.98 0.0001	0.29 0.0022	0.98 0.0001	0.57 0.0001	0.77 0.0001	0.65 0.0001	0.89 0.0001	0.46 0.0001	0.87 0.0001
TOT_F_NA	-	-	1.00 0.0	0.43 0.0001	0.90 0.0001	0.47 0.0001	0.56 0.003	0.29 0.0001	0.59 0.0001	0.46 0.0001	0.53 0.0001	0.48 0.0001
PC_F_NA	-	-	-	1.00 0.0	0.27 0.0058	0.98 0.0001	0.58 0.0001	0.78 0.0001	0.66 0.0001	0.89 0.0001	0.47 0.0001	0.87 0.0001
TOT_M_NA	-	-	-	-	1.00 0.0	0.34 0.0003	0.50 0.0001	0.25 0.01	0.50 0.0001	0.32 0.0008	0.51 0.0001	0.33 0.0005
PC_M_NA	-	-	-	-	-	1.00 0.0	0.57 0.0001	0.79 0.0001	0.65 0.0001	0.90 0.0001	0.47 0.0001	0.90 0.0001
TOTDEG	-	-	-	-	-	-	1.00 0.0	0.61 0.0001	0.95 0.0001	0.65 0.0001	0.94 0.0001	0.67 0.0001
PCDEG	-	-	-	-	-	-	-	1.00 0.0	0.66 0.0001	0.89 0.0001	0.53 0.0001	0.86 0.0001
DEG_F	-	-	-	-	-	-	-	-	1.00 0.0	0.74 0.0001	0.86 0.0001	0.73 0.0001
PC_F	-	-	-	-	-	-	-	-	-	1.00 0.0	0.53 0.0001	0.95 0.0001
DEG_M	-	-	-	-	-	-	-	-	-	-	1.00 0.0	0.58 0.0001
PC_M	-	-	-	-	-	-	-	-	-	-	-	1.00 0.0001

TABLE X

1976 DATA CORRELATION MATRIX

TYPE=E CONTROL=R

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00 0.0	0.84 0.0001	0.96 0.0001	0.82 0.0002	0.60 0.02	0.51 0.05	0.52 0.05	0.47 0.08	0.55 0.03	0.44 0.10	0.35 0.21	0.48 0.07
PCIND	-	1.00 0.0	0.74 0.002	0.99 0.0001	0.71 0.0031	0.76 0.0009	0.49 0.06	0.54 0.04	0.43 0.11	0.53 0.04	0.45 0.09	0.50 0.06
TOT_F_NA	-	-	1.00 0.0	0.71 0.003	0.36 0.18	0.28 0.31	0.35 0.20	0.29 0.30	0.40 0.14	0.27 0.33	0.20 0.47	0.32 0.24
PC_F_NA	-	-	-	1.00 0.0	0.72 0.003	0.77 0.0008	0.48 0.07	0.54 0.0385	0.44 0.10	0.54 0.04	0.41 0.13	0.47 0.08
TOT_M_NA	-	-	-	-	1.00 0.0	0.94 0.0001	0.75 0.001	0.75 0.001	0.71 0.003	0.74 0.002	0.60 0.02	0.70 0.004
PC_M_NA	-	-	-	-	-	1.00 0.0	0.69 0.005	0.72 0.002	0.58 0.02	0.70 0.003	0.65 0.009	0.69 0.004
TOTDEG	-	-	-	-	-	-	1.00 0.0	0.96 0.0001	0.90 0.0001	0.93 0.0001	0.87 0.0001	0.98 0.0001
PCDEG	-	-	-	-	-	-	-	1.00 0.0	0.88 0.0001	0.99 0.0001	0.82 0.0002	0.91 0.0001
DEG_F	-	-	-	-	-	-	-	-	1.00 0.0	0.88 0.0001	0.57 0.03	0.76 0.0009
PC_F	-	-	-	-	-	-	-	-	-	1.00 0.0	0.76 0.001	0.86 0.0001
DEG_M	-	-	-	-	-	-	-	-	-	-	1.00 0.0	0.95 0.0001
PC_M	-	-	-	-	-	-	-	-	-	-	-	1.00 0.0001

TABLE XI

1976 DATA CORRELATION MATRIX

TYPE=E CONTROL=R

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00	-0.04	0.98	00.03	0.19	0.79	0.94	0.96	0.97	0.97	0.66	0.94
	0.0	0.94	0.0004	0.96	0.72	0.06	0.09	0.003	0.001	0.001	0.15	0.006
PCIND	-	1.00	0.05	0.99	-0.53	-0.40	-0.07	-0.05	0.02	0.02	-0.20	-0.08
		0.0	0.92	0.0001	0.28	0.43	0.89	0.92	0.97	0.97	0.20	0.88
TOT_F_NA	-	-	1.00	0.06	0.01	0.80	0.94	0.96	0.99	0.99	0.63	0.94
			0.0	0.91	0.98	0.05	0.005	0.002	0.0001	0.0001	0.18	0.005
PC_F_NA	-	-	-	1.00	-0.48	-0.41	-0.08	-0.06	-0.02	-0.02	-0.23	-0.09
				0.0	0.33	0.42	0.87	0.91	0.97	0.97	0.66	0.87
TOT_M_NA	-	-	-	-	1.00	0.03	0.08	0.06	-0.03	-0.03	0.24	0.09
					0.0	0.95	0.88	0.91	0.95	0.95	0.64	0.87
						0.0	0.004	0.0001	0.03	0.0001	0.0009	0.0001
TOTDEG	-	-	-	-	-	-	1.00	0.99	0.94	0.94	0.85	0.99
							0.0	0.0001	0.005	0.005	0.03	0.0001
PCDEG	-	-	-	-	-	-	-	1.00	0.97	0.97	0.81	0.99
								0.0	0.002	0.002	0.05	0.0001
DEG_F	-	-	-	-	-	-	-	-	1.00	1.00	0.63	0.94
									0.0	0.0001	0.18	0.005
PC_F	-	-	-	-	-	-	-	-	-	1.00	0.63	0.94
										0.0	0.18	0.005
DEG_M	-	-	-	-	-	-	-	-	-	-	1.00	0.86
											0.0	0.03
PC_M	-	-	-	-	-	-	-	-	-	-	-	1.00
												0.0

TABLE XII

1978 DATA CORRELATION MATRIX

TYPE=F CONTROL=R

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00 0.0	0.65 0.06	0.96 0.0001	0.72 0.03	0.72 0.03	0.51 0.17	0.64 0.06	0.42 0.26	0.81 0.008	0.44 0.24	0.40 0.29	0.37 0.33
PCIND	-	1.00 0.0	0.47 0.21	0.99 0.0001	0.84 0.0048	0.98 0.0001	0.99 0.0001	0.95 0.0001	0.95 0.0001	0.96 0.0001	0.92 0.0004	0.93 0.0002
TOT_F_NA	-	-	1.00 0.0	0.55 0.13	0.49 0.18	0.29 0.45	0.45 0.22	0.19 0.63	0.69 0.04	0.22 0.58	0.15 0.70	0.13 0.73
PC_F_NA	-	-	-	1.00 0.0	0.86 0.003	0.96 0.0001	0.99 0.0001	0.93 0.0003	0.97 0.0001	0.93 0.0002	0.90 0.001	0.90 0.0009
TOT_M_NA	-	-	-	-	1.00 0.0	0.83 0.006	0.86 0.003	0.80 0.010	0.79 0.01	0.81 0.008	0.83 0.005	0.78 0.01
PC_M_NA	-	-	-	-	-	1.00 0.0	0.98 0.0001	0.99 0.002	0.88 0.0001	0.99 0.0001	0.98 0.0001	0.99 0.0001
TOTDEG	-	-	-	-	-	-	1.00 0.0	0.96 0.0001	0.95 0.0001	0.97 0.0001	0.94 0.0001	0.94 0.0001
PCDEG	-	-	-	-	-	-	-	1.00 0.0	0.83 0.006	0.99 0.0001	0.99 0.0001	0.99 0.0001
DEG_F	-	-	-	-	-	-	-	-	1.00 0.0	0.84 0.0041	0.79 0.01	0.80 0.01
PC_F	-	-	-	-	-	-	-	-	-	1.00 0.0	0.98 0.0001	0.99 0.0001
DEG_M	-	-	-	-	-	-	-	-	-	-	1.00 0.0	0.99 0.0001
PC_M	-	-	-	-	-	-	-	-	-	-	-	1.00 0.0

high relationship (r=.95) between the percentage of degrees granted to Indian students and the percentage of their enrollment at that institution. A moderate relationship (r=.64) was shown between the number of Indian students enrolled and the number of degrees granted to Indian students. These data are shown in Table XIII, page 52.

Summary

In this chapter, the null hypothesis tested in this study was presented: There is no significant difference between the success rate of American Indian students and the percentage of their enrollment in each of the nine Carnegie types of institutions of higher education. The data analyzed included data from 367 institutions of higher education from the first Higher Education General Information Survey (HEGIS) in 1976, and the final survey in 1978.

Since the Pearson Product-Moment Correlation for percentage of Native American enrollment to percentage of degrees awarded to Native Americans for both 1976 and 1978 ranged from a strong correlation of r=.98 to no correlation of r=-.05 the null hypothesis was not rejected. The Pearson Product-Moment Correlation for the number of American Indians enrolled to the number of degrees granted to American Indians for both 1976 and 1978 ranged from a strong correlation of r=.95 to a fairly weak r=.49 so the null hypothesis was not rejected. A concise report of these data are shown in Table XIV, page 53.

Using the matched t test where there was more than one pair of institutions that were called a match because their names were identical, there were only two

TABLE XIII

1978 DATA CORRELATION MATRIX

TYPE=F CONTROL=R

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00 0.0	0.65 0.06	0.96 0.0001	0.72 0.03	0.72 0.03	0.51 0.17	0.64 0.06	0.42 0.26	0.81 0.008	0.44 0.24	0.40 0.29	0.37 0.33
PCIND	-	1.00 0.0	0.47 0.21	0.99 0.0001	0.84 0.0048	0.98 0.0001	0.99 0.0001	0.95 0.0001	0.95 0.0001	0.96 0.0001	0.92 0.0004	0.93 0.0002
TOT_F_NA	-	-	1.00 0.0	0.55 0.13	0.49 0.18	0.29 0.45	0.45 0.22	0.19 0.63	0.69 0.04	0.22 0.58	0.15 0.70	0.13 0.73
PC_F_NA	-	-	-	1.00 0.0	0.86 0.003	0.96 0.0001	0.99 0.0001	0.93 0.0003	0.97 0.0001	0.93 0.0002	0.90 0.001	0.90 0.0009
TOT_M_NA	-	-	-	-	1.00 0.0	0.83 0.006	0.86 0.003	0.80 0.010	0.79 0.01	0.81 0.008	0.83 0.005	0.78 0.01
PC_M_NA	-	-	-	-	-	1.00 0.0	0.98 0.0001	0.99 0.002	0.88 0.0001	0.99 0.0001	0.98 0.0001	0.99 0.0001
TOTDEG	-	-	-	-	-	-	1.00 0.0	0.96 0.0001	0.95 0.0001	0.97 0.0001	0.94 0.0001	0.94 0.0001
PCDEG	-	-	-	-	-	-	-	1.00 0.0	0.83 0.006	0.99 0.0001	0.99 0.0001	0.99 0.0001
DEG_F	-	-	-	-	-	-	-	-	1.00 0.0	0.84 0.0041	0.79 0.01	0.80 0.01
PC_F	-	-	-	-	-	-	-	-	-	1.00 0.0	0.98 0.0001	0.99 0.0001
DEG_M	-	-	-	-	-	-	-	-	-	-	1.00 0.0	0.99 0.0001
PC_M	-	-	-	-	-	-	-	-	-	-	-	1.00 0.0

TABLE XIV

PEARSON PRODUCT-MOMENT CORRELATION 1976-1978

1976		1978	
Type B, Control P, N = 5			
Percent Ind. Enr. to Percent Gr. Degrees	r=.98		
No. Ind. St. Enr. to No. Deg. to Ind. St.	r=-.55		
Type C, Control P, N = 30		Type C, Control P, N = 27	
Percent Ind. Enr. to Percent Gr. Degrees	r=.91	Percent Ind. Enr. to Percent Gr. Degrees	r=.92
No. Ind. St. Enr. to No. Deg. to Ind. St.	r=.95	No. Ind. St. Enr. to No. Deg. to Ind. St.	r=.93
Type D, Control R, N = 20		Type D, Control R, N = 17	
Percent Ind. Enr. to Percent Gr. Degrees	r=.59	Percent Ind. Enr. to Percent Gr. Degrees	r=.67
No. Ind. St. Enr. to No. Deg. to Ind. St.	r=.80	No. Ind. St. Enr. to No. Deg. to Ind. St.	r=.85
Type E, Control P, N = 98		Type D, Control R, N = 106	
Percent Ind. Enr. to Percent Gr. Degrees	r=.96	Percent Ind. Enr. to Percent Gr. Degrees	r=.77
No. Ind. St. Enr. to No. Deg. to Ind. St.	r=.60	No. Ind. St. Enr. to No. Deg to Ind. St.	r=.54
Type E, Control R, N = 15		Type E, Control R, N = 13	
Percent Ind. Enr. to Percent Gr. Degrees	r=.54	Percent Ind. Enr. to Percent Gr. Degrees	r=.57
No. Ind. St. Enr. to No. Deg. to Ind. St.	r=.52	No. Ind. St. Enr. to No. Deg. to Ind. St.	r=.49
Type F, Control R, N = 6		Type F, Control R, N = 9	
Percent Ind. Enr. to Percent Gr. Degrees	r=-.05	Percent Ind. Enr. to Percent Gr. Degrees	r=.95
No. Ind. St. Enr. to No. Deg. to Ind. St.	r=.94	No. Ind. St. Enr. to No. Deg to Ind. St.	r=.64

types of institutions that showed any significant differences in their means at the .05 level. These data are shown in Table XV, pages 55-56. Liberal Arts Colleges, Private Control (Type D, Control R) showed a significant difference in the means for the percent of degrees granted to American Indian students. Two Year Colleges and Institutions, Private Control (Type E, Control R) showed a significant difference in the means for the percent of American Indian students enrolled and the percent of female American Indian students enrolled.

TABLE XV

t-TEST FOR MATCHED PAIRS 1976 AND 1978

RESEARCH UNIVERSITIES
Public Control

NO. OF OBS.	DIFF. VAR.	NO. OF MATCHED PAIRS	MEAN	SD	*t*-STAT.	P VALUE
3	PCIND	2	-0.05	0.07	-1.00	0.50
	PC_F_NA	2	-0.10	0.42	-0.33	0.80
	PC_M_NA	2	0.05	0.21	0.33	0.97
	PCDEG	2	0.05	1.34	0.05	0.95
	PC_F	2	-0.10	1.98	-0.07	0.82
	PC_M	2	0.20	0.99	0.29	

DOCTORATE GRANTING UNIVERSITIES
Public Control

NO. OF OBS.	DIFF. VAR.	NO. OF MATCHED PAIRS	MEAN	SD	*t*-STAT	P VALUE
6	PCIND	2	2.65	3.61	1.04	0.49
	PC_F_NA	2	4.80	6.08	1.11	0.47
	PC_M_NA	2	0.85	1.48	0.81	0.57
	PCDEG	2	0.90	0.57	2.25	0.27
	PC_F	2	1.70	1.27	1.89	0.31
	PC_M	2	0.70	0.57	1 75	0 33

COMPREHENSIVE COLLEGES AND UNIVERSITIES
Public Control

NO. OF OBS.	DIFF. VAR.	NO. OF MATCHED PAIRS	MEAN	SD	*t*-STAT	P VALUE
43	PCIND	14	-0.69	2.06	-1.24	0.24
	PC_F_NA	14	-0.99	2.47	-1.49	0.16
	PC_M_NA	14	-0.43	1.52	-1 05	0.31
	PCDEG	14	-0.37	2.35	-0.60	0 56
	PC_F	14	-1.28	3.35	-1.43	0.18
	PC_M	14	0.32	2.55	0.47	0.65

LIBERAL ARTS COLLEGES
Private Control

NO. OF OBS.	DIFF. VAR.	NO OF MATCHED PAIRS	MEAN	SD	*t*-STAT	P VALUE
32	PCIND	6	-0.17	2.20	-0.19	0.86
	PC_F_NA	6	-1.65	2.58	-1.56	0.18
	PC_M_NA	6	1.51	2.90	1.28	0.26
	PCDEG	6	-1.37	1.16	-2.88*	0.03*
	PC_F	6	0.20	3.28	-0.15	0.89
	PC_M	6	-1.77	2.50	-1.73	0 14

TABLE XV (CONTINUED)

TWO YEAR COLLEGES AND INSTITUTIONS
Public Control

NO. OF OBS.	DIFF. VAR.	NO. OF MATCHED PAIRS	MEAN	SD	t-STAT	P VALUE
153	PCIND	51	0.64	4.78	0.95	0 34
	PC_F_NA	51	0 26	3.16	0.59	0 56
	PC_M_NA	51	-0.28	2.39	-0.85	0.40
	PCDEG	51	-0.48	3.54	-0.97	0.34
	PC_F	51	-0.70	4.97	-1.01	0 32
	PC_M	51	-0.33	3.36	0.70	0.49

TWO YEAR COLLEGES AND INSTITUTIONS
Private Control

NO. OF OBS.	DIFF. VAR.	NO. OF MATCHED PAIRS	MEAN	SD	t-STAT	P VALUE
22	PCIND	6	-10.37	8.05	-3.15*	0.03*
	PC_F_NA	6	-15.53	12.58	-3.03*	0.03*
	PC_M_NA	6	-4.15	6.66	-1.53	0.19
	PCDEG	6	-6.18	11.56	-1.31	0.25
	PC_F	6	-11.85	26.32	-1.10	0.32
	PC_M	6	1.67	23.25	0.18	0.87

* $P < .05$

CHAPTER V

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Historically, the Native American has not had the opportunities of education that was available to the majority of society. It has seemed that when a facet of American Indian life was beginning to reap benefits for the Indian, the non-Indian made efforts to *"help"* in such a way that it destroyed what was successful. Indian control, after such a history, has not always been successful. But where one has participation and interaction, it is hoped that educational and social goals can be accomplished. A study conducted by Bass of a random sample of Indians graduating from Southwest Indian high schools disclosed that but seven percent went on to complete college (Bass, 1969, p. 16).

The problem in this study was to determine whether there were significant differences in the success rates of American Indian students related to the percentage of their enrollment at selected institutions of higher education. The data were collected from the first biennial Higher Education General Information Survey (HEGIS) in 1976 and the final one two years later. The data were manually selected from those institutions that reported two percent or more Native American enrollment and analyzed using the SAS computer program for the parametric tests

of Pearson Product-Moment Correlation coefficient and the *t* test for correlated samples. The findings are presented in the following section.

Findings

This study was restricted to those institutions of higher education reporting two percent or more Native American enrollment on the first Higher Education General Information Survey (HEGIS) in 1976 and the second and final one published in 1978. These data were confined to those institutions of higher education, excluding military academies, in the fifty states, the District of Columbia, and the outlying areas.

Each of those manually selected institutions that met the two percent or more Native American criterion was found listed in the Carnegie Council Classification typology, by both type and institutional control. The twelve variables; i. e.,number and percentage of American Indians enrolled; number and percentage of degrees awarded to American Indians; number and percentage of female American Indians enrolled; number and percentage of degrees awarded to female American Indians; number and percentage of male American Indians enrolled; and number and percentage of degrees awarded to male American Indians were entered for computer analysis. The following are the notable findings for this study:

1. The *r* values ranged from $r=-.05$ to $r=.98$. Such a wide span of values produced no consistently significant relationships.

2. The *t* test for matched pairs produced two types of institutions that showed significant differences in their

means at the .05 level: Liberal Arts Colleges, Private Control (Type D, Control R) for the percent of degrees granted to American Indian students; and Two Year Colleges and Institutions, Private Control (Type E, Control R) for the percent of American Indian students enrolled and the percent of female American Indian students enrolled.

Conclusions

The following conclusions are based on the results of this study:

1. With correlations varying so, from r=-.05 to r=.98, it was found that the correlation between Native American enrollment and degrees granted to Native American students was not significant.

2. Since the correlations were so high for publically controlled institutions; Doctorate Granting Universities, r=.92; and Two Year Colleges and Institutions, r=.96 for percent of American Indian students enrolled relating to percent degrees granted to American Indian students, it was concluded that privately supported institutions might not be as successful with American Indian students as their publically controlled counterparts.

3. While there were three areas that were statistically significant for three variables in two Carnegie Institutional types, it was found that there was no overall significance in the number or percentage of degrees granted to American Indian students, regardless of the type of institutions of higher education attended.

4. Since Comprehensive Colleges and Universities that were under public control (Type C, Control P) had the highest correlation for both years for percent of American Indians enrolled to percent of degrees awarded to American Indian students r=.91 and r=.92, as well as a high correlation r=.92 and r=.93 for the number of American Indian students enrolled to number of degrees granted to American Indian students, it was inferred that this type of institution was more successful with American Indian students using these particular criteria.

Recommendations

The following recommendations are made based upon the findings of this study:

Recommendations for policy

1. The federal government, because of its national scope and its historical obligation, should fund the gathering and utilization of data on the education of the Native American. The paucity of data on the American Indian is highlighted throughout the literature (Astin, 1982, p. 173). Universities can augment federal data collection by disaggregating by race and sex the data that is studied by individual institutions.

2. Financial aid policies need restructuring so priorities can continue to take advantage of the opportunity offered by higher education. Cutbacks of federal funds will decrease minority attendance in a time of increased fees and tuition.

3. Every reasonable effort should be made on the part of counselors to guide Native American students to schools that have a demonstrated rate of success; namely, the publicly controlled two year colleges and institutions, and the publicly controlled comprehensive colleges and universities.

Recommendations for future research

1. The study needs to be replicated with a one percent American Indian enrollment criterion to expand the number of schools involved. While some of the correlations were strong, there were only 183 institutions in 1976 and 1984 and 1978 that met the two percent Native American enrollment criterion. It is felt that with increased numbers involved the uneven outcomes would not be so drastic.

2. It is hoped that Comprehensive Colleges and Universities controlled by the public sector (Type C, Control P) could undergo more scrutiny in their relationships with American Indian students because of their apparent success rates regarding the number and percentage of American Indian students enrolled and the number and percentage of degrees granted to American Indian students. Such scrutiny could possibly distinguish more specific actions that encourage American Indian students to graduate.

Concluding Thoughts

A study conducted in Arizona found that non-successful students had more close friends who were Indian (Quimby, 1963, p. 91). This finding seems to contradict the literature on student attrition focusing on non-Indians. General rules of student retention may not pertain to specific subgroups of the population.

One can speculate that some of the close Indian friends of an Indian student might become a detriment to college completion if they encourage behavior that creates more problems for the student than it solves. The value structures of persons from cultural backgrounds and/or home communities with lower rates of higher educational participation may place handicaps on students attempting to complete college. Unfortunately, conflicting expectations may encourage students at least partially to reject memberships in communities of which they have been part all of their lives (Tinto, 1987, p. 61). A warning offered to researchers is that differences in subgroups are critical for purposes of analysis. What is true for one subgroup, may not be true for others.

A further caution offered is that the data gleaned from 1976 and 1978 responses may be somewhat biased in that it is considered more fashionable

today to claim or admit one's ethnic heritage than it was ten or fifteen years ago. Now, it is not only more fashionable to "be Indians," but it is more financially beneficial. The data should be considered in light of the social climate in which they were gathered.

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APPENDIXES

APPENDIX A

CORRELATION MATRIX FOR TYPES OF INSTITUTIONS WHERE N=3

1976 DATA CORRELATION MATRIX

TYPE-A CONTROL=P N=3

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00	0.98	0.97	0.99	0.35	0.68	0.69	0.82	0.81	0.85	0.13	0.67
	0.0	0.13	0.15	0.03	0.77	0.52	0.51	0.39	0.49	0.36	0.91	0.53
PCIND	-	1.00	0.90	0.98	0.54	0.82	0.52	0.68	0.67	0.72	-0.08	0.50
		0.0	0.29	0.10	0.64	0.38	0.65	0.52	0.54	0.49	0.95	0.67
TOT_F_NA	-	-	1.00	0.96	0.12	0.49	0.84	0.93	0.93	0.95	0.37	0.83
			0.0	0.19	0.93	0.67	0.36	0.24	0.25	0.20	0.76	0.38
PC_F_NA	-	-	-	1.00	0.40	0.72	0.65	0.79	0.78	0.82	0.08	0.63
				0.0	0.74	0.49	0.55	0.42	0.43	0.39	0.95	0.56
TOT_M_NA	-	-	-	-	1.00	0.92	-0.44	-0.25	-0.27	0.20	-0.88	-0.46
					0.0	0.25	0.71	0.84	0.83	0.87	0.31	0.70
PC_M_NA	-	-	-	-	-	1.00	-0.06	0.14	0.12	0.19	-0.63	0.08
						0.0	0.96	0.91	0.92	0.88	0.56	0.95
TOTDEG	-	-	-				1.00	-0.98	0.98	0.97	0.81	0.99
							0.0	0.13	0.12	0.16	0.20	0.01
PCDEG	-	-	-	-	-	-	-	1.00	0.99	0.99	0.68	0.98
								0.0	0.01	0.03	0.53	0.14
DEG_F	-	-	-	-	-	-	-	-	1.00	0.99	0.69	0.98
									0.0	0.04	0.51	0.13
PC_F	-	-	-	-	-	-	-	-	-	1.00	0.64	0.96
										0.0	0.56	0.17
DEG_M	-	-	-	-	-	-	-	-	-	-	1.00	0.82
											0.0	0.39
PC_M	-	-	-	-	-	-	-	-	-	-	-	1.00
												0.0

1978 DATA CORRELATION MATRIX

TYPE=B CONTROL=P N=3

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00	0.81	0.99	0.82	0.99	0.80	0.44	0.76	*	0.72	0.44	0.85
	0.0	0.40	0.03	0.39	0.05	0.41	0.71	0.45		0.49	0.71	0.36
PCIND	-	1.00	0.84	0.99	0.76	0.99	0.17	0.99	*	0.99	-0.17	0.99
		0.0	0.36	0.01	0.45	0.01	0.90	0.05		0.09	0.89	0.04
TOT_F_NA	-	-	1.00	0.85	0.99	0.83	0.39	0.79	*	0.75	0.39	0.87
			0.0	0.36	0.08	0.38	0.75	0.42		0.46	0.75	0.32
PC_F_NA	-	-	-	1.00	0.77	0.99	-0.16	0.99	*	0.99	-0.16	0.99
				0.0	0.44	0.02	0.90	0.06		0.09	0.90	0.04
TOT_M_NA	-	-	-	-	1.00	0.75	-0.51	0.71	*	0.66	0.51	0.80
					0.0	0.46	0.66	0.50		0.54	0.66	0.41
PC_M_NA	-	-	-	-	-	1.00	-0.19	0.99	*	0.99	-0.19	0.99
						0.0	0.88	0.04		0.08	0.88	0.05
TOTDEG	-	-	-				1.00	-0.25	*	-0.31	1.00	-0.11
							0.0	0.84		0.80	0.00	0.93
PCDEG	-	-	-	-	-	-	-	1.00	*	0.99	0.25	0.99
								0.0		0.04	0.84	0.09
DEG_F	*	*	*	*	*	*	*	*	*	*	*	*
PC_F	-	-	-	-	-	-	-	-	*	1.00	-0.31	0.98
										0.0	0.80	0.13
DEG_M	-	-	-	-	-	-	-	-	*	-	1.00	-0.11
											0.0	0.93
PC_M	-	-	-	-	-	-	-	*	-	-	-	1.00
												0.0

1978 DATA CORRELATION MATRIX

TYPE=C CONTROL=R

VARIABLES	TOTIND	PCIND	TOT_F_NA	PC_F_NA	TOT_M_NA	PC_M_NA	TOTDEG	PCDEG	DEG_F	PC_F	DEG_M	PC_M
TOTIND	1.00	0.99	0.99	0.99	0.99	0.98	0.58	0.74	0.94	0.94	0.21	-0.34
	0.0	0.08	0.02	0.10	0.06	0.09	0.13	0.61	0.47	0.22	0.86	0.78
PCIND	-	1.00	0.98	0.99	0.99	0.99	0.94	0.68	0.65	0.98	0.33	-0.22
		0.0	0.10	0.03	0.02	0.02	0.21	0.53	0.55	0.14	0.79	0.86
TOT_F_NA	-	-	1.00	0.98	0.99	0.98	0.98	0.55	0.77	0.93	0.17	-0.38
			0.0	0.13	0.08	0.12	0.11	0.63	0.44	0.24	0.89	0.75
PC_F_NA	-	-	-	1.00	0.99	0.99	0.93	0.70	0.62	0.98	0.36	-0.18
				0.0	0.05	0.003	0.24	0.50	0.57	0.11	0.76	0.88
TOT_M_NA	-	-	-	-	1.00	0.99	0.95	0.65	0.68	0.97	0.30	-0.25
					0.0	0.04	0.19	0.55	0.53	0.16	0.81	0.84
PC_M_NA	-	-	-	-	-	1.00	0.93	0.70	0.63	0.98	0.36	-0.19
						0.0	0.23	0.51	0.57	0.12	0.77	0.88
TOTDEG	-	-	-				1.00	0.40	0.87	0.85	0.00	-0.53
							0.0	0.74	0.33	0.35	1.00	0.65
PCDEG	-	-	-	-	-	-	-	1.00	-0.11	0.82	0.92	0.57
								0.0	0.93	0.39	0.26	0.62
DEG_F	-	-	-	-	-	-	-	-	1.00	0.47	-0.50	-0.88
									0.00	0.68	0.67	0.31
PC_F	-	-	-	-	-	-	-	-	-	1.00	0.53	-0.005
										0.0	0.65	0.99
DEG_M	-	-	-	-	-	-	-	-	-	-	1.00	0.85
											0.0	0.35
PC_M	-	-	-	-	-	-	-	-	-	-	-	1.00
												0.0

APPENDIX B

SIMPLE STATISTICS 1976

RESEARCH UNIVERSITIES

PUBLIC CONTROL

1976 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	3	437.67	94.63	1313.0
PCIND	3	2.77	0.71	8.3
TOT_F_NA	3	222.67	89.28	668.0
PC_F_NA	3	3.20	1.10	9.6
TOT_M_NA	3	215.00	22.65	645.0
PC_M_NA	3	2.37	0.42	77.1
TOTDEG	3	51.00	23.90	153.0
PCDEG	3	2.33	1.46	7.0
DEG_F	3	29.00	19.29	87.0
PC_F	3	3.13	2.32	9.4
DEG_M	3	22.00	6.08	66.0
PC_M	3	1.73	0.71	5.2

Simple Statistics

Variable	Minimum	Maximum
TOTIND	346.0	535.0
PCIND	2.0	3.4
TOT_F_NA	152.0	323.0
PC_F_NA	2.1	4.3
TOT_M_NA	194.0	239.0
PC_M_NA	1.9	2.7
TOTDEG	30.0	77.0
PCDEG	1.3	4.0
DEG_F	15.0	51.0
PC_F	1.6	5.8
DEG_M	15.0	26.0
PC_M	1.1	2.5

DOCTORATE GRANTING UNIVERSITIES

PUBLIC CONTROL

1976 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	5	174.40	66.87	872.0
PCIND	5	3.32	2.09	16.6
TOT_F_NA	5	85.40	35.77	427.0
PC_F_NA	5	3.46	2.02	17.3
TOT_M_NA	5	89.00	31.11	445.0
PC_M_NA	5	3.22	2.13	16.1
TOTDEG	5	6.04	2.97	32.0
PCDEG	5	1.22	1.58	6.1
DEG_F	5	3.60	1.82	18.0
PC_F	5	1.90	2.73	9.5
DEG_M	5	3.20	2.70	16.0
PC_M	5	0.66	0.58	3.3

Simple Statistics

Variable	Minimum	Maximum
TOTIND	105.0	268.0
PCIND	2.0	7.8
TOT_F_NA	48.0	135.0
PC_F_NA	2.0	7.0
TOT_M_NA	57.0	133.0
PC_M_NA	1.9	7.0
TOTDEG	2.0	10.0
PCDEG	0.1	4.0
DEG_F	1.0	6.0
PC_F	0.1	6.7
DEG_M	1.0	8.0
PC_M	0.1	1.6

COMPREHENSIVE COLLEGES AND UNIVERSITIES

PUBLIC CONTROL

1976 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	30	177.77	167.71	5333.0
PCIND	30	5.65	4.94	169.6
TOT_F_NA	30	97.03	91.44	2911.0
PC_F_NA	30	6.64	6.03	199.2
TOT_M_NA	30	80.73	78.54	2422.0
PC_M_NA	30	4.78	3.91	143.5
TOTDEG	30	18.67	23.18	560.0
PCDEG	30	18.67	23.18	560.0
DEG_F	30	10.23	13.27	307.0
PC_F	30	5.09	6.04	152.7
DEG_M	30	8.43	10.44	253.0
PC_M	30	3.10	3.74	93.0

Simple Statistics

Variable	Minimum	Maximum
TOTIND	26.0	766.0
PCIND	2.0	22.9
TOT_F_NA	9.0	408.0
PC_F_NA	1.6	26.7
TOT_M_NA	15.0	358.0
PC_M_NA	1.4	18.5
TOTDEG	0	88.0
PCDEG	0	18.0
DEG_F	0	47.0
PC_F	0	22.9
DEG_M	0	41.0
PC_M	0	15.5

LIBERAL ARTS COLLEGES

PRIVATE CONTROL

1976 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	20	31.20	23.69	624.0
PCIND	20	55.14	3.56	102.8
TOT_F_NA	20	18.25	16.70	365.0
PC_F_NA	20	6.09	5.71	121.8
TOT_M_NA	20	12.95	7.99	259.0
PC_M_NA	20	4.46	2.51	89.2
TOTDEG	20	3.45	4.37	69.0
PCDEG	20	3.63	4.20	72.5
DEG_F	20	1.75	3.08	35.0
PC_F	20	3.89	6.04	77.7
DEG_M	20	1.70	1.81	34.0
PC_M	20	3.14	3.35	62.8

Simple Statistics

Variable	Minimum	Maximum
TOTIND	3.0	102.0
PCIND	2.0	13.3
TOT_F_NA	0	64.0
PC_F_NA	0	22.4
TOT_M_NA	3.0	38.0
PC_M_NA	1.9	9.0
TOTDEG	0	20.0
PCDEG	0	17.7
DEG_F	0	14.0
PC_F	0	25.0
DEG_M	0	6.0
PC_M	0	10.5

TWO YEAR COLLEGES AND INSTITUTIONS

PUBLIC CONTROL

1976 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	98	166.21	285.76	16289.0
PCIND	98	7.00	13.68	686.1
TOT_F_NA	98	84.24	156.46	8256.0
PC_F_NA	98	7.42	14.06	727.0
TOT_M_NA	98	80.90	132.19	7928.0
PC_M_NA	98	6.91	13.79	676.8
TOTDEG	98	13.47	25.05	1320.0
PCDEG	98	5.54	13.37	543.0
DEG_F	98	6.92	13.47	678.0
PC_F	98	5.81	14.52	569.0
DEG_M	98	6.55	12.58	642.0
PC_M	98	5.31	14.31	519.9

Simple Statistics

Variable	Minimum	Maximum
TOTIND	9.0	2425.0
PCIND	2.0	100.0
TOT_F_NA	1.7	1337.0
PC_F_NA	0.8	100.0
TOT_M_NA	2.0	1088.0
PC_M_NA	0.9	100.0
TOTDEG	0	190.0
PCDEG	0	100.0
DEG_F	0	99.0
PC_F	0	100.0
DEG_M	0	91.0
PC_M	0	100.0

TWO YEAR COLLEGES AND INSTITUTIONS

PRIVATE CONTROL

1976 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	15	95.40	109.46	1431.0
PCIND	15	35.62	38.33	534.3
TOT_F_NA	15	69.60	93.98	1044.0
PC_F_NA	15	38.52	40.82	578.0
TOT_M_NA	15	25.80	31.55	387.0
PC_M_NA	15	24.63	32.90	369.5
TOTDEG	15	10.80	17.21	162.0
PCDEG	15	17.02	30.03	255.3
DEG_F	15	7.33	10.39	110.0
PC_F	15	18.83	33.31	282.5
DEG_M	15	3.47	8.93	52.0
PC_M	15	13.15	25.98	197.3

Simple Statistics

Variable	Minimum	Maximum
TOTIND	1.0	327.0
PCIND	2.1	99.0
TOT_F_NA	0	312.0
PC_F_NA	0	99.0
TOT_M_NA	0	84.0
PC_M_NA	0	96.6
TOTDEG	0	58.0
PCDEG	0	96.7
DEG_F	0	29.0
PC_F	0	100.0
DEG_M	0	35.0
PC_M	0	94.6

OTHER

PRIVATE CONTROL

1976 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	6	22.17	30.13	133.0
PCIND	6	12.58	18.80	75.5
TOT_F_NA	6	16.80	29.59	101.0
PC_F_NA	6	13.15	18.56	78.9
TOT_M_NA	6	5.33	5.28	32.0
PC_M_NA	6	3.37	2.81	20.2
TOTDEG	6	0.67	1.21	4.0
PCDEG	6	0.88	1.68	5.3
DEG_F	6	0.33	0.82	2.0
PC_F	6	0.63	1.55	3.8
DEG_M	6	0.33	0.52	2.0
PC_M	6	1.12	2.02	6.7

Simple Statistics

Variable	Minimum	Maximum
TOTIND	3.0	82.0
PCIND	2.0	50.0
TOT_F_NA	1.0	77.0
PC_F_NA	1.5	50.0
TOT_M_NA	0	14.0
PC_M_NA	0	82.2
TOTDEG	0	3.0
PCDEG	0	4.2
DEG_F	0	2.0
PC_F	0	3.8
DEG_M	0	1.0
PC_M	0	5.0

APPENDIX C

SIMPLE STATISTICS 1978

DOCTORATE GRANTING UNIVERSITIES

PRIVATE CONTROL

1978 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	3	189.67	69.47	569.0
PCIND	3	5.93	4.43	17.8
TOT_F_NA	3	110.60	43.10	332.0
PC_F_NA	3	7.63	7.34	22.9
TOT_M_NA	3	79.00	26.51	237.0
PC_M_NA	3	4.50	3.81	13.5
TOTDEG	3	10.33	1.53	31.0
PCDEG	3	2.53	2.40	7.6
DEG_F	3	7.00	0	21.0
PC_F	3	4.40	4.28	13.2
DEG_M	3	3.33	1.53	10.0
PC_M	3	1.30	1.22	3.9

Simple Statistics

Variable	Minimum	Maximum
TOTIND	116.0	254.0
PCIND	2.7	12.2
TOT_F_NA	66.0	152.0
PC_F_NA	3.2	16.1
TOT_M_NA	50.0	102.0
PC_M_NA	2.3	8.9
TOTDEG	9.0	12.0
PCDEG	1.0	5.3
DEG_F	7.0	7.0
PC_F	1.4	9.3
DEG_M	2.0	5.0
PC_M	0.5	2.7

COMPREHENSIVE COLLEGES AND UNIVERSITIES

PUBLIC CONTROL

1978 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	27	164.07	164.64	4430.0
PCIND	27	5.33	4.80	143.8
TOT_F_NA	27	93.96	93.59	2537.0
PC_F_NA	27	6.05	5.55	163.3
TOT_M_NA	27	70.48	72.88	1903.0
PC_M_NA	27	4.55	4.07	123.0
TOTDEG	27	20.37	29.73	550.0
PCDEG	27	4.04	4.62	109.2
DEG_F	27	11.48	17.24	310.0
PC_F	27	4.29	5.17	116.0
DEG_M	27	8.88	12.71	240.0
PC_M	27	3.70	4.27	100.0

Simple Statistics

Variable	Minimum	Maximum
TOTIND	20.0	678.0
PCIND	2.0	22.9
TOT_F_NA	4.0	387.0
PC_F_NA	1.3	26.0
TOT_M_NA	14.0	291.0
PC_M_NA	1.1	18.6
TOTDEG	0	118.0
PCDEG	0	20.1
DEG_F	0	65.0
PC_F	0	21.6
DEG_M	0	53.0
PC_M	0	18.0

COMPREHENSIVE UNIVERSITIES AND COLLEGES

PRIVATE CONTROL

1978 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	3	70.00	45.50	210.0
PCIND	3	3.20	1.59	9.6
TOT_F_NA	3	42.33	31.97	127.0
PC_F_NA	3	4.10	3.33	12.3
TOT_M_NA	3	27.76	13.61	83.0
PC_M_NA	3	2.63	0.32	7.9
TOTDEG	3	5.00	1.00	15.0
PCDEG	3	1.50	0.75	4.5
DEG_F	3	2.30	1.15	7.0
PC_F	3	1.63	1.70	4.9
DEG_M	3	2.76	0.58	8.0
PC_M	3	1.63	0.85	4.9

Simple Statistics

Variable	Minimum	Maximum
TOTIND	31.0	120.0
PCIND	2.0	5.0
TOT_F_NA	14.0	77.0
PC_F_NA	1.7	7.9
TOT_M_NA	17.0	43.0
PC_M_NA	2.4	3.0
TOTDEG	4.0	6.0
PCDEG	0.7	2.2
DEG_F	1.0	3.0
PC_F	0.6	3.6
DEG_M	2.0	3.0
PC_M	0.8	2.5

LIBERAL ARTS COLLEGE

PRIVATE CONTROL

1978 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	17	30.29	25.36	515.0
PCIND	17	5.49	4.22	93.4
TOT_F_NA	17	19.53	17.91	332.0
PC_F_NA	17	6.28	5.90	106.7
TOT_M_NA	17	10.76	9.09	183.0
PC_M_NA	17	4.85	3.81	82.4
TOTDEG	17	3.12	3.33	53.0
PCDEG	17	2.93	2.65	49.8
DEG_F	17	2.12	2.45	36.0
PC_F	17	4.25	5.05	72.2
DEG_M	17	1.00	1.27	17.0
PC_M	17	2.30	2.81	39.1

Simple Statistics

Variable	Minimum	Maximum
TOTIND	1.0	87.0
PCIND	2.1	17.4
TOT_F_NA	1.0	65.0
PC_F_NA	0.7	24.2
TOT_M_NA	0	36.0
PC_M_NA	0	14.3
TOTDEG	0	12.0
PCDEG	0	7.9
DEG_F	0	7.9
PC_F	0	14.3
DEG_M	0	5.0
PC_M	0	8.9

TWO YEAR COLLEGES AND INSTITUTIONS

PUBLIC CONTROL

1978 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	106	153.72	174.92	16294.0
PCIND	106	10.55	19.09	1118.0
TOT_F_NA	106	85.96	95.25	9112.0
PC_F_NA	106	10.94	19.16	1160.0
TOT_M_NA	106	67.43	84.44	7148.0
PC_M_NA	106	9.69	18.97	1028.0
TOTDEG	106	10.63	18.39	1127.0
PCDEG	106	6.82	16.79	722.4
DEG_F	106	5.52	9.64	585.0
PC_F	106	7.67	19.08	813.1
DEG_M	106	4.69	9.17	497.0
PC_M	106	6.89	17.90	730.4

Simple Statistics

Variable	Minimum	Maximum
TOTIND	7.0	843.0
PCIND	1.0	100.0
TOT_F_NA	3.0	544.0
PC_F_NA	1.0	100.0
TOT_M_NA	1.0	491.0
PC_M_NA	0.6	100.0
TOTDEG	0	162.0
PCDEG	0	100.0
DEG_F	0	86.0
PC_F	0	100.0
DEG_M	0	76.0
PC_M	0	100.0

TWO YEAR COLLEGES AND INSTITUTIONS

PRIVATE CCONTROL

1978 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	13	83.54	98.64	1073.0
PCIND	13	28.66	33.58	372.6
TOT_F_NA	106	85.96	95.25	9112.0
PC_F_NA	106	10.94	19.16	1160.0
TOT_M_NA	106	67.43	84.44	7148.0
PC_M_NA	106	9.69	18.97	1028.0
TOTDEG	106	10.63	18.39	1127.0
PCDEG	106	6.82	16.79	722.4
DEG_F	106	5.52	9.64	585.0
PC_F	106	7.67	19.08	813.1
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Simple Statistics

Variable	Minimum	Maximum
TOTIND	7.0	843.0
PCIND	1.0	100.0
TOT_F_NA	3.0	544.0
PC_F_NA	1.0	100.0
TOT_M_NA	1.0	491.0
PC_M_NA	0.6	100.0
TOTDEG	0	162.0
PCDEG	0	100.0
DEG_F	0	86.0
PC_F	0	100.0
DEG_M	0	76.0
PC_M	0	100.0

OTHER

PRIVATE CONTROL

1978 DATA
Simple Statistics

Variable	N	Mean	Std. Dev.	Sum
TOTIND	9	67.11	100.31	604.0
PCIND	9	18.20	32.94	163.8
TOT_F_NA	9	43.89	79.66	395.0
PC_F_NA	9	19.00	33.85	171.0
TOT_M_NA	9	23.22	33.31	209.0
PC_M_NA	9	14.62	32.51	131.6
TOTDEG	9	5.33	9.86	48.0
PCDEG	9	12.80	32.80	115.2
DEG_F	9	2.78	5.33	25.0
PC_F	9	12.40	33.01	111.6
DEG_M	9	2.56	5.10	23.0
PC_M	9	12.53	32.85	112.8

Simple Statistics

Variable	Minimum	Maximum
TOTIND	1.0	285.0
PCIND	2.1	100.0
TOT_F_NA	0	245.0
PC_F_NA	0	100.0
TOT_M_NA	0	93.0
PC_M_NA	0	100.0
TOTDEG	0	30.0
PCDEG	0	100.0
DEG_F	0	14.0
PC_F	0	100.0
DEG_M	0	16.0
PC_M	0	100.0

VITA

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Doctor of Education

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