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Attainment Of Doctoral Degree For American Indian And Alaska Native Women

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ATTAINMENT OF DOCTORAL DEGREE FOR AMERICAN INDIAN AND ALASKA NATIVE WOMEN

by

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ABSTRACT

The American Indian/Alaska Native (AI/AN) population is challenged with diverse learning styles, high-risk behaviors, low economic status, low enrollment predictions, lower total education achievement, or lower graduate level higher education. However, AI/AN doctoral degree recipients may be successful due to diverse sources of support.

Data from 1992 to 2002 SED was analyzed using Chi square tests to observe the trends of the total number of AI/AN women receiving doctoral degree compared to trends to African-American/Black, Hispanic, Asian, White, Other / Unknown women doctoral degree recipients. A two-way contingency table analysis was conducted to compare the difference in the total number of AI/AN female doctoral degree students with female doctoral degree recipients in other races. The Asian, White, and Other/Unknown were found to be significant in total number of doctoral degree recipients when compared to AI/AN population from 1992 to 2002, year to year. In a follow-up pair wise comparison conducted to evaluate these differences between consecutive years for the groups only the Other/Unknown category was significant. In addition, each race experienced a decline in the total female doctoral degree recipients during 1999 to 2002. However, the AI/AN female doctoral degree recipient group experienced the most drastic decreases, - 26.9 percent from 1999 to 2000. More AI/AN women are enrolled in colleges however they may be inadequately prepared to progress to doctoral programs due to poor availability of sources of support.

Therefore, a survey questionnaire was designed to provide descriptive information on sources of social, emotional, academic, and professional support that was available for AI/AN women doctoral degree recipients. On the survey sources of social, emotional, academic, and professional support during graduate school were asked to be selected from: Committee Chair, Committee Member, Graduate Faculty, Graduate Colleagues, Other Faculty, Spouse/partner, Family, Employer, Friend, Tribal Group, Elder, Mentor, or Other. All sources of support that applied were selected, as well as, top three main sources. Forty-six surveys were completed, and the most frequent source (91 percent) and most common primary source (41 percent) of support selected for survey respondents was their Committee Chair. The survey data analysis offers observations of frequencies of this scarcely studied population.

I would like to dedicate my dissertation to Lytton First Nation, British Columbia, Canada, for their enduring support through my 21 years of college education. Especially, the Lytton Education Department, Gladys Grenier and Roger James, who stressed the importance of good grades.

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LIST OF ACRONYMS

AA/B	African-American/Black
AI/AN	American Indians and Alaska Natives
BIA	Bureau of Indian Affairs
HEGIS	Higher Education General Information Survey
IGR	Institute of Government Research
IHE	Institute of Higher Education
INARTF	Indian Nations at Risk Task Force
IPEDS	Integrated Postsecondary Education Data System
NASA	National Aeronautics and Space Administration
NCAA	National Collegiate Athletic Association
NCES	National Center of Education Statistics
NEH	National Endowment of Humanities
NORC	National Opinion Research Center
NSF	National Science Foundation
NIH	National Institute of Health
PSID	Panel Study of Income Dynamics
SED	Survey of Earned Doctorates
US	United States
USCB	United States Census Bureau

USDA	United States Department of Agriculture
USDE	United States Department of Education
USDI	United States Department of the Interior
WHCIE	White House Conference on Indian Education

CHAPTER ONE

INTRODUCTION

This dissertation was written to analyze statistics that are available from large United States national databases to assess the educational attainment of American Indian and Alaska Native women to the doctoral degree level. In general, past statistics infer that female minorities such as women who are American Indians and Alaska Natives (AI/AN) have a lower level of probability in attaining a high degree of educational achievement such as a college doctorate degree.

The purpose of this research was to address specific minority statistics that may influence an individual's educational success. Statistics indicate a low number of AI/AN women have attained a doctoral degree. The low number may assist in lobbying for increases in federal funding and programs. However, the low perceived education success could affect an AI/AN student's motivation to pursue a higher education. Therefore, the AI/AN student may perceive the long-term goal of attaining as being doctoral degree very unrealistic. Highlighting AI/AN women's accomplishments in higher education over periods of time the successes may inspire younger AI/AN women to set higher education goals. For this reason it is important to stress evidence that higher education achievement is attainable for AI/AN students who are making career decisions. Consequently, informed career decisions could be made during high school that is founded on optimistic predictions versus negative categories. Throughout the first twelve years of formal elementary and secondary education, career opportunities, technology, and communication continue to evolve and influence student's education choices and opportunities.

These choices and opportunities should not be limited due to gender, ethnic or socioeconomic background, all of which have traditionally deterred girls or women in attempting to reach a high level in education. Over the past century, access to higher education has improved for AI/AN women, which is evident in the numbers seen for university enrollment and graduation. The following is an investigation in the recent accomplishments and status of AI/AN women in attaining a doctoral degree in the U.S.

In this study, data was compared from 1992 to 2002 to recognize that education achievement is attainable and accessible for AI/AN women. There was an examination of data from the following categories: AI/AN, African-American/Black (AA/B), Hispanic Asian, White, Other/Unknown, women, and doctoral degree recipients, using available national statistics from the United States. The main database used was the Survey of Earned Doctorates (SED) 1992 to 2002 for quantitative assessment of AI/AN women who are completing their doctorate. Furthermore, descriptive information on race population was used from the U.S. Census 2000.

For AI/AN students who have completed doctoral work the SED is a census for recipients of earned doctorates, such as Ph.D., D.Sc., and Ed.D. in all fields, and conferred by U.S. institutions. The SED questionnaire collects information on field of study, sex, race/ethnicity, financial support, time to degree, and immediate post graduation plans. The SED database was used for this study for there is no sampling error, the response rate averages 95 percent, and provides statistics on AI/AN women who have earned a doctoral degree. The SED does not provide information on professional degrees, such as M.D., D.D.S., J.D., AND Psy.D. The SED is sponsored by the U.S. Department of Education, the National Endowment for the Humanities, the U.S. Department of Agriculture, and the National Institute of Health.

When using a national database, a challenge for the researcher in categorizing individuals is the variety of multiple characteristics that cause the use of the study's statistics to be generalized descriptors for an individual from a mixed background. "Multi-minorities" introduces a new challenge for statistics concerning individuals who can be categorized within several ethnic backgrounds or origin. For example, for a light skinned woman, who has emigrated from England to the United States with an African American father and an English mother may have a racial classification of AA/B, White, or Other/Unknown. Statistics can be used to predict a White women's educational achievement versus an AA/B women's level of education attainment. The total number of AA/B women compared to White women for attainment of a doctoral degree is lower (SED, 2000). Therefore, predictions may be made that if she is White versus AA/B she may have a higher probability to attain a doctoral degree. There are still gaps between races concerning level of education attainment. With the increase in multi-minorities, there is also a challenge in identifying individuals and in predicting the level of education that could be attained.

The gap is closing between percentages of educational attainment of AI/AN compared to other non-AI/AN races. As well as, the educational attainment of women compared to men in attaining a college graduate level of education. In the 1900s, the gap was large when comparing education achievement between men and women, and individuals who were colored minorities. Furthermore, the present population is more diverse due to "multi-minorities"; therefore making predictions of education success is limited by general categories. Predictions of a student's educational success being dependent on their racial background may have a positive or a negative effect on a student's education achievement. When racial groups are used to develop

education programs designed to increase education success for minorities it is acknowledging that the importance of education, but also that the need for such programs is high for minorities due to their lower levels of success. Therefore, racial background has importance in a student's identity and perception of herself concerning education achievement as well as development of specific programs in the education system designed to increase the educational success of these minorities.

In addition, to gain insight on female AI/AN doctoral degree recipient's doctoral degree experience a survey was performed. The survey was structured with close-ended questions to reveal timelines for college work, available sources of support during doctoral degree program, and personal and family background.

Background and Significance

American Indians and Alaskan Natives are minorities who have been subjected to negative racial characteristics. AI/AN have come a long way since the label of "savage" was given to AI/AN people during western colonization. Wright and Tierney (1991) reported that an 18th century historian at the College of William and Mary, Hugh Jones, admitted regarding Indians that (p.12):

> …[an] abundance of them used to die…. Those of them that have escaped as well, and been taught to read and write, have for the most part returned to their home, some without baptism, where they follow their own savage customs and heathenish rites.

In the 19th century institutes for Indians were not true colleges and "standards of training at best, approximated only those of a good manual-training high school. The range of occupation futures

envisioned for Indian students was limited to farmer, mechanic, and housewife" (Wright & Tierney, 1991, p. 15).

Pavel, Skinner, Farris, Calahan, Tippeconnic, and Stein published the report *American Indians and Alaska Natives in postsecondary education* for the United States Department of Education (1998). In this report U.S. AI/AN history was highlighted, and amongst all the data it was verified that in the past 243 years education access and education achievement for AI/AN women has increased significantly (Pavel *et al.*, 1998). In 1761 the first school to admit female AI/AN was Moore's Charity School by congregational minister Reverend Eleazor Wheelock to convert the Indians (as cited in Pavel *et al.*, 1998).

It was not until 1928, when the Secretary of the Interior, Hubert Work, requested a report to survey the economic and social condition of the American Indian for the Institute of Government Research (IGR) for the U.S. Congress (1928). The survey technical director was Lewis Meriam, which later gave the survey its name as the Meriam Report (IGR, 1928). The Meriam report recognized that American Indians had an educational system that was below social and educational standards (IGR, 1028). The report highlighted the importance of individual recognition and improvement of the quality of teachers (IGR, 1928). In response to the Meriam Report, in 1934, The Johnson-O'Malley Act was passed by the U.S. congress to provide federal funds for American Indian education services (as cited in Sharpes, 1979). In 1948 the higher education scholarship program was established for American Indians by the Bureau of Indian Affairs to improve access to higher education (as cited in Pavel *et al.*, 1998). The United States Department of the Interior (USDI): Bureau of Indian Affairs (BIA) education programs had an impact in the 1970's (1991). In 1975, the Indian Self-Determination and

Education Act were implemented to authorize tribes to operate their own education programs, and then in 1975 the Educational Amendments Act granted powers to Indian School boards to hire local staff and teachers (USDI, 1991).

Still in 1991, the Indian Nations at Risk Task Force (INARTF) released a report emphasizing the need to improve financial aid programs, encourage teacher programs and develop a national database on AI/AN education (INARTF, 1991). In 1992, there were 113 recommendations made at the White House Conference on Indian Education (WHCIE) to make improvements for American Indian education, this occurred during the former Bush administration who was unable to attend (WHCIE, 1992). It is evident by the high number of recommendations that improvements were still essential to improve the level of education for AI/AN population. Many of the recommendations were to develop research that provides applied knowledge.

By 1998, the percentage of the AI/AN population who reached a higher education achievement was greater than at any other time for every degree level (Pavel et al, 1998). However, after this period there were several dips in total population of AI/AN women doctoral degree recipients. Furthermore, when AI/AN education achievement is compared to the total population outside of the AI/AN population the total education achievement of AI/AN is lower. It is important to acknowledge that the AI/AN population has lower education achievement so that recommendations and strategies can be implemented to assist students in improving their attainment of higher education thus eventually removing the gap. In addition, comparisons of AI/AN education achievements from past to present show increases in total education achievements and should be highlighted. The discussion of the improvements of education

access may have a positive impact on AI/AN students who are planning to pursue a career that requires a higher education.

The small sample size of the AI/AN women enrolled in postsecondary education equals 0.8 percent of the total U.S. population, which can be problematic and cause a sampling error. For instance, a total random sample of 1,000 would result in an average of eight AI/AN women. A sample of eight people is too small for reliable statistical effort, and would have high standard errors. To gather reliable data on AI/AN women would only further increase standard errors. Another concern is that when a sample of the population is small and a base value is also small then a decrease or increase in value may result with a relatively large percentage change. Surveys based on census can avoid these problems because the entire population is included in the report. Therefore, two census type databases will be utilized in this study to assess the AI/AN women doctoral degree recipient trends.

Statement of the Purpose

This study addresses some of the factors that contribute or inhibit the success of AI/AN women in the doctoral degree program. To begin with, specific minority statistics that may influence perceptions of an individual's educational success were observed to gain insight into the trends in education success for AI/AN women. The quantitative trends of AI/AN women doctoral degree recipients through the most recent data provided from the SED 1992 to 2002 were evaluated and compared to other races of women in the United States. AI/AN women doctoral degree recipients were compared to African American/Black, Hispanic Asian, White, and Other/Unknown women doctoral degree recipients within the U.S. population to develop

insight into recent trend. There are similarities between AI/AN and other minority women such as African American and Hispanic populations, in comparison to Asian and White women. Overall, tribal groups have assisted in developing education resources and programs to help members to attain higher education, however negative social issues are still predominant in AI/AN communities.

For that reason, the research question was: What are some of the factors that contribute or inhibit the success of AI/AN women in the doctoral degree program?

In addition, to provide more information, a survey was conducted to investigate AI/AN women doctoral degree recipient's education, personal, and family backgrounds and sources of support during the completion of their doctoral program. The main purpose of the survey was to find additional answers to the following two questions: 1) who do AI/AN female doctoral degree recipients utilize for their source of support? 2) What percentages of primary, secondary, and third sources of support are women or AI/AN?

This study provides information on a rarely researched group of students and provides conceptions for future research.

Definitions

The operational definitions for race in this study can be referenced to the U.S. Census Bureau Briefs.

American Indian and Alaska Native: can be defined as "…people having origins in any of the original peoples of North and South America (including Central America), and who maintain tribal affiliation or community attachment" (Ogunwole, 2002, p.2). The U.S. Census

2000 has two different AI/AN categories: “alone” or “in combination” with one, two, three other races. For the purpose of the proposal the total AI/AN “alone” and “in combination” with another race was used unless noted otherwise. The Census 2000 survey also requested AI/AN respondents to provide the name of their enrolled or principal tribes, which had not been requested before.

Asian: to people having origins, not necessarily national origin but as an ethnic term, “…in any of the original peoples from the Far East, South East Asia, or the Indian subcontinent (for example Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam)” (Barnes &Bennett, 2002, p. 1).

African American/Black: “…refers to people having origins in any of the Black race groups of Africa. It includes people who re reported ‘Black, African Am., or Negro’ or wrote in entries such as African American, Afro American, Nigerian, or Haitian” (McKinnon, 2001, p. 1).

Hispanic: in the Census 2000 includes Mexican, Mexican American, Chicano, Puerto Rican, or Cuban origin (McKinnon, 2001).

White: “…refers to people having origins in any of the original peoples of Europe, the Middle East, or North Africa. It includes people who reported ‘White’ or wrote entries such as Irish, German, Italian, Lebanese, Near Easterner, Arab, or Polish” (Grieco, 2001, p.1).

Doctoral Degree Recipient: includes all degrees carrying the title doctor, however, first professional degrees such as M.D. and D.D.S. are not included in this definiton. Therefore, the category of Doctoral degrees includes Ph.D. and Ed.D.

Limitations

Ethnic Identity

In the collection of AI/AN data it is a great challenge to specify origin of race or ethnic identity. In a 1978 congressional survey it was found that there were 33 separate definitions of "Indian" used in federal legislation and not including what may be used by given tribes or self-identification (Garroutte, 2001). There is a difference in determining AI/AN status, compared to individuals whose ethnic identity is African-American or Black. To have a "Black" ethnic origin legal attributions have focused on the "one-drop rule" or rule of "hypodescent" (Garroutte, 2001). In 1970, Louisiana state law defined people of Black ethnic identity as anyone possessing " a trace of black ancestry" (Garroutte, 2001, p. 231). It was declared that anyone with one-thirty second degree (3 percent) of "Negro blood" was considered to be "Black" (Garroutte, 2001, p. 231). In 1985, it was changed to say that parents had the right to define the race of their children on the birth certificate (Garroutte, 2001). It seems that many individuals were forced to claim AA/B status with little evidence of the amount of blood quantum, in comparison to AI/AN individuals who have to show strong evidence to be allowed into the racial category (Garroutte, 2001). This may be due to dependency on using outward appearance to classify individuals.

The most serious problem defining the AI/AN population is within the cultural subgroups of up to 500 tribal groups (Ericksen, 1997). In addition, sampling from only tribal groups or reservations would not be effective, as not all AI/AN members belong to a tribal group, and not all AI/AN populations live on reservations. Ericksen (1997) gave four reasons why there are problems sampling the AI/AN national population (p. 44):

1. They are small proportion of the total population.

2. They are not so segregated that geographic over sampling can reach most of the population.
3. Criteria for deciding who is a member of Native American and Alaska Native population are not well defined (nationally).
4. They are so culturally diverse that subclass estimates may be of greater or equal importance than overall estimates.

Studies could focus on reservation population, tribal memberships, who are eligible for coverage through Indian Health Service, or self-reporting of identity. Many individuals who have mixed descent may gain or lose preferential treatment depending on racial/ethnic identification, which may cause problems in over or under representation of specific groups. Due to the increase in AI/AN population in the United States over representation needs to be researched further. According to the United States Census Bureau (USCB), the U.S. Census 2000 highlighted that the AI/AN population had increased to 4.1 million from 237,000 people in 1900 (USCB, 2005). The increase in population may be attributed to an increase in AI/AN identification due to the decrease of minority segregation that was prevalent in the 1900's. For example, during the late nineteenth and early twentieth century the Oklahomas, Creeks, Cherokees, Chickasaws, and Choctaws fought against registration by the Dawes Commission (Garroutte, 2001). The resistant American Indians were called the "irreconcilables" for fighting against being registered on Dawes Roll. President Theodore Roosevelt wanted to break up the tribal masses by destroying indigenous cultural foundations and then integrating the Indians into the American culture (Garroutte, 2001). By doing this collective ownership of land could be destroyed and distributed to individuals with a reduction in government attention and expenditures for AI/AN communities (Garroutte, 2001). Land was disbursed in some areas of the U.S. to individuals with Indian Ancestry, like Oklahoma. The term "five-dollar Indians" was

coined due to people who bribed the census enumerator to record their ancestry as Indian and lay claim to land (Garroutte, 2001).

Presently, the most common method of identification for determining tribal citizenship is "blood quantum" or degree of AI/AN ancestry (Garroutte, 2001). Two thirds of federally recognized tribes specify a minimum of blood quantum, with one-quarter blood degree the most frequent minimum (Garroutte, 2001). In 1900, a woman who had fifty percent AI/AN blood quantum who may not physically appear to be an AI/AN may have preferred to hide her identity to avoid racism or segregation to a reservation or residential school. In contrast, today it may be preferred to claim 50 percent AI/AN blood quantum to gain American Indian status due to possible eligibility for employment equity programs, grants and scholarships, or other benefits that are linked to AI/AN identification. Between 1960 and 1970, there was a rapid and discrepant growth in the AI/AN population that could not be accounted for by births, deaths, or other demographic factors (Ericksen, 1997). The only reasonable explanation was that some people did not identify themselves as AI/AN previously (Ericksen, 1997). From 1960 to 1980 the total population tripled from 600,000 to 1.42 million respectively (Ericksen, 1997). This indicates sampling problems in individuals defining themselves as AI/AN through the early times.

In the U.S. Census Brief by Ogunwole (2002), AI/AN ethnic identity was expanded in the U.S. Census 2000 where respondents were asked to report one or more races they considered themselves and other members of their household to be, and the name of their enrolled or principal tribe. There were 1,081 specified AI/AN tribes based on self-identification and written entries reported in the Census 2000. Since the entries were written and not checked off a

provided government list, the tribes identified do not represent only federally- or state-recognized tribes (Census, 2000). Of the total U.S. population of 281.4 million, 2.5 million or 0.9 percent reported to be AI/AN alone, and 1.6 million or 0.6 percent reported to be AI/AN in combination with one or more other races (Ogunwole, 2002). However, due to the changes in the collection of the 2000 Census data, one race cannot be directly compared from 1990 to 2000 (Ogunwole, 2002). Nevertheless, the different U.S. Census 2000 provides two categories of AI/AN "alone" or "in combination" with one or more races. Therefore, the AI/AN groups could also be compared to each other today. For the purpose of the proposal, the total "alone" and "in combination" with AI/AN population was used from the U.S. Census 2000.

Ethnic Identity and College Campus Environment

There may be limitations in applying the experience of AI/AN women attending college to AI/AN women who have not attended college due to the effect of the campus environment and experience may have on perception of ethnic identity. It is important to recognize the social environment of an urban college campus for it may weaken cultural application when sampling from ethnic groups (Tanaka, 2002). There is a "great variation and shifting between categories, so that the act of knowing each student's social location is a search for an evolving, negotiated, multilayered cultural perspective" (Tanaka, 2002, p. 266). Ericksen noted that when individuals move from one place to another the economic or political climate changes, and self-identification may change too (1997). In addition, identification could depend on who you are living with other than AI/AN, or if you are living close to a reservation or not (1997). Identification takes on an attitude that is subject to local context (Ericksen, 1997). A Navajos from Arizona, an Aleut

from Alaska, and a Sioux from the Northern Great Plains may be all attending graduate school at an urban college, and their ethnic identity as an AI/AN may be weakened or strengthened depending on the environment.

Author Bias

The scope of the dissertation may be limited due to the self-interest and ethnic background of the dissertation author. It is important to note that the review is biased due to the fact that the author is completing her Education Doctorate degree and is a 100 percent blood quantum American Indian woman on paper, however, she is only 50 percent blood quantum according to the true origin of her mother. Besides the obvious, the reason why this topic is of great interest to the author is due to her own educational experiences where she perceived her predicted success to be minimal and limited due to her ethnic background combined with low economic status and social background. Furthermore, due to the college campus environment the author's personal bias may interfere with her perception of educational achievement of AI/AN women. Within a college setting access to education, support, and advice is available and may give a Doctorate student the perception that access is equal. This was the initial challenge when developing the hypotheses of this dissertation. Originally it was postulated that there is high rate of education success for AI/AN women, and that there has been an increase in AI/AN doctoral degree recipients. However, with further research it was discovered that these assumptions were incorrect. The author's original questions needed to be re-evaluated to allow for the evidence that AI/AN women were receiving fewer doctoral degrees year to year from 1999 to 2002.

Assumptions

As discussed above in the Ethnic Identity section, it was assumed that the total AI/AN population in national databases used the categories AI/AN "alone" or "in combination" with one or more races. Furthermore, this study does not compare tribal groups within the AI/AN populations.

CHAPTER TWO

When investigating AI/AN education attainment an array of factors have an impact on success for these students. In the literature review some of these factors will be explored to gain insight into what is involved for AI/AN women in attaining a doctoral degree. Characteristics that may interfere with the AI/AN level of education attainment are learning styles and social issues and risks. The AI/AN student's learning styles may be culturally different and can be challenged within the traditional school system. AI/AN social issues and risks are visibly grave in comparison to the total population and can have an impact on achieving a higher education. Desirable attributes for education attainment, such as parental support and personal development, for AI/AN students are examined and related to education achievement. AI/AN women may also have another barrier to consider in achieving a high level of education, which is the influence of gender expectations and stereotypes by teachers and family that may interfere with career decisions. Another possible challenge for AI/AN students is low economic status, which can limit access to institutes of higher education. In consideration of these negative influences on achieving a high level of education it is effortless to understand why the U.S. Department of Education would have low enrollment predictions for AI/AN students and these possible low expectations could cause a bias and lack of support by leaders in education. Nevertheless, AI/AN higher education achievement and graduate level higher education are being attained and are discussed, as well as, the attributes for AI/AN doctoral degree recipients. Outside the AI/AN community, there are common threads linking AI/AN women and other ethnic minorities seen in

the struggle for civil rights and the growth of feminism. Without these efforts AI/AN women would have greater challenges to access higher education.

Through these challenges and successes tribal affiliations, resourcefulness, and resilience are a part of the AI/AN women's identity that may play a role in the perseverance of learning. Finally, to gain more insight to AI/AN doctoral degree recipients the attributes for AA/B doctoral degree recipients are examined for trends that may be common among ethnic minorities.

Literature Review

American Indian / Alaskan Native Learning Styles

AI/AN students can be placed in education frameworks that deal with minority groups. In general, "minority groups are often less advanced in terms of year of school completed and performance on tests of academic achievement and cognitive skills" (Ogbu, 2001, p. 288). A word of caution when discussing characteristics of AI/AN learning styles is to avoid stereotyping and overgeneralization of groups and tribes (Sparks, 2000). Within the AI/AN minority classification there are also tribal groups with different cultures and characteristics. When attempting to understand AI/AN learning styles an educator should actively gather information from AI/AN students and tribal groups in the area of the school. This can assist educators to understand tribal practices and developing curriculum, which will foster learning for AI/AN students.

There is also a diverse classification of learning styles. Researchers have illustrated that there are twenty-one different learning style characteristics and as many as twelve cognitive styles (Reynolds, 1995). Learning styles can also be just preferences rather than mandatory

approaches required for learning to occur. For example, some individuals may prefer studying in the morning versus the evening. Learning styles should be thought of as being multi-dimensional and not merely products of the "six categories of perceptual preference, physical environment, social environment, cognitive style, time of day, and motivation/values (Reynolds, 1995, p. 318).

Swisher assessed AI/AN learning styles and how the AI/AN students learned by observation, and how the students demonstrated competence (1991). Swisher stated, "in some tribes, observation, self-testing in private, and then demonstration of a task for approval are essential steps in learning" (1991, p.1). It was also observed that AI/AN students did not participate in large and small group settings as much, but when in a group led by another student, or interacting with a teacher, they were more talkative (Swisher, 1991). In addition, AI/AN students may avoid demonstrating academic competence so that they do not come across as being superior (Swisher, 1991). In many AI/AN communities, individual humility is to be respected and preserved with the avoidance of taking oneself too seriously (Swisher, 1991).

Using a cultural specific approach, Sparks addresses classroom and curriculum accommodations of AI/AN students. Researchers have found that many AI/AN students use simultaneously processing rather than sequentially processing information, which is the method mainly used in traditional schooling (Sparks, 2000). Simultaneous processing occurs when one first observes the whole picture and then the parts in it. Sequential processing occurs when a new fact is presented which leads to another fact until the whole is established (Sparks, 2000). Traditional curriculum is based on sequential learning, where a concept is built from a myriad of details, and then assessed by testing which focuses on details, such as a multiple choice test

(Stokes, 1997). AI/AN are global learners who have a holistic, right hemisphere information processing learning style who see the overall picture (Stokes, 1997). When teaching AI/AN students, subjects should be revealed rather than delivered in separate and discrete pieces (Stokes, 1997). Many AI/AN students also learn new skills by observing and then by doing them (Sparks, 2000). AI/AN students tend to be highly visual learners (Sparks, 2000; Stokes, 1997). For example, an AI/AN child will watch a parent perform a task and then practice it privately, and will not perform the task publicly until feeling confident in her ability (Stokes, 1997). Cooperative versus competitive learning environments also works well with AI/AN students (Sparks, 2000). It is also suggested that AI/AN students are challenged in note taking, therefore alternatives should be sought (Sparks, 2000). Furthermore, AI/AN students have a different concept of space and time, and often see life as an unhurried event (Sparks, 2000). Therefore, in a class environment where questions are posed and answers are expected quickly an AI/AN students would tend to not answer questions quickly because of their learning styles and respect for others (Stokes, 1997). The traditional learning style in school is a mismatch with the home environment (Stokes 1997). Stokes assisted in the development of the curriculum for Menominee Indian School District, Keshena, WI. During a meeting with tribal members, concerns were raised that due to an elimination of tribal values from the school curriculum students did not show enough respect for elders, one another, or their surroundings (Stokes, 1997).

Even if a traditional curriculum in a public school is adapted to include curriculum that supports learning styles that are more holistic, visual, and unhurried, there are constraints for teachers. Standardized test scores are traditionally used to show improvement and achievement

of grade level standards within specific timelines are constraints that are a teacher's challenge in choosing how to develop a curriculum. Ninety percent of AI/AN students attend non-tribal public schools, and are the minority with the highest drop out rates (Sparks, 2000). In addition, a disproportionate number of AI/AN students are identified as requiring special education (Sparks, 2000). Besides the non-traditional learning styles AI/AN suffer from racism and negative stereotyping that leads to self-concept difficulties (Sparks, 2000). There is also a high degree of poverty with AI/AN students, and the correlation between poverty and lack of education for many is a national problem (Stokes, 1997).

In assessing learning styles it is also important to address adaptations of AI/AN students in the school system within the community environment. Ogbu believes that key components to understanding school adjustment and academic performance of minority groups are to recognize: the cultural models with regard to the U.S. society, cultural and language frame of reference, the degree of trust for White Americans and societal institutions they control, and the educational strategies that result from these elements (2001). The cultural model is how people understand the world, which guide their interpretations (Ogbu, 2001). Ogbu uses a cultural/language frame of reference to look at differences that exist between minority groups (2001). Ogbu states that there are either frames that are ambivalent/oppositional or non-oppositional frames due to cultural/language differences that existed before a group became a minority (2001). The product of reactions to contact situations, especially one that involves the subordination of one group by another, such as "after Blacks were brought to America, or after an American Indian tribe was conquered, moved, and placed on a 'reservation'"(Ogbu, 2001, 289). At first contact minority groups have primary cultural differences, but then later develop secondary cultural differences in

order to cope with oppression (Ogbu, 2001). Ogbu addresses community forces within a cultural model, if the high-risk environment are a part of AI/AN youths understanding of their world their interpretations may discourage educational success and then their actions may turn to coping strategies that could interfere with educational strategies (2001). For AI/AN youth there is a high incidence of risk-taking behaviors that interferes with educational achievement. Therefore, it is important to include the community forces when assessing AI/AN learning styles.

Social Issues and Risks

The AI/AN populations are subject to participating in high-risk behaviors at higher percentages than the national average. Clarke (2002) reviews risk factors within the context of peer, family, school and community groups. These groups can have a positive or negative impact on youth, and resiliency research shows that youth can be protected from family and community distress (Clarke, 2002). However, according to the following data the AI/AN population is exposed to opportunities to participate in self-destructive and illegal behaviors more than the national average. The U.S. Department of Health and Human Service (USDHHS, 2001) reported that AI/AN youth between the ages of 12 to 17 years in 1999-2000 had the following high-risk behaviors in comparison to the national average (as in Clarke, 2002, p. 1-2):

—"Illicit drug use" was 22.2 %, higher than national average 9.7%
—"Binge alcohol use" was 13.8%, higher than national average 10.3%
—"Heavy alcohol use" 3.8%, higher than national average 2.5%
—"Use of cigarettes" was 27.2%, higher than national average 13.4%
—"Getting into at least one serious fight at school or work in the past year" 22.1%, higher than national average 19.9%
—"Taking part in at least one group-against-group fight in the past year" 22.4%, higher than national average 16.1%
—"Carrying a handgun at least once in the past year" 3.3%, slightly higher than 3.2%

—"Driving under the influence of illicit drugs or alcohol in the past year" 10%, slightly lower than national average 11.2%

These figures illustrate that the AI/AN youth have excessive incidences of high-risk behaviors. Unfortunately, the differences from national average, for example "illicit drug use" being twice as high with AI/AN population between the ages of 12 to 17 year olds causes great concern on the negative impact on education achievement. AI/AN youth have been labeled as a population at high risk. According to USDHHS (1999) the leading causes of death for AI/AN individuals between the ages of 15 to 24 year olds are motor vehicle and other accidents. The second leading cause for this same group is suicide, which is 2.5 times higher than the combined rate for all other races (USDHHS, 1999). The third leading cause of death for AI/AN youth age 15-24 is homicide and legal intervention, which is 1.2 times higher than the national average (USDHHS, 1999). The leading causes of death indicated are extremely violent ways to end a life and due to these higher percentages of violent losses a higher percentage of family members remain to mourn and manage these losses, which causes a loss to the to the community in every facet.

A family factor that affects AI/AN youth is the high percentage households headed by women (45%), and the high percentage (42%) of women who gave birth to the first child before the age of 20 (Clark, 2002). This has an affect on education outcome due to the strain on resources for a single female parent, and the time available to be active in education activities of the child or children.

School factors for AI/AN youth are drop outs related to school problems, such as, "failure or inability to get along with teachers, dislike of school, inability to get along with other students,

boredom, feelings of not belonging, and suspension" (Clarke, 2002, p. 3). Many AI/AN youth live in communities under long-term social and economic distress (Clarke, 2002). In AI/AN communities there are "high rates of alcoholism, drug abuse, domestic abuse, child neglect, substandard housing, and lack of job opportunities" and the rate of violence is twice the national average (Clarke, 2002, p.3).

Within peer, family, school and community framework AI/AN youth are exposed to many influences that could contribute to failure to achieve a higher education. There is strong evidence that suggests that families with strong traditional values positively affect the academic success of AI/AN students (Clarke, 2002). AI/AN youth who also "develop important reading, critical thinking, problem solving, and communication skills are better able to cope with stressful and perhaps dangerous situations" (Clarke, 2002, p. 3). Education attainment also enhances positive self-esteem, and self-efficacy that allows AI/AN youth to experience emotional well being (Clarke, 2002) which could lead to success at achieving higher education and improved career choices.

Attributes for Education Attainment

The National Institute of Child Health and Human Development (NIH) report is created from research findings on factors linked to children's education achievement and emotional adjustment based on the Panel Study of Income Dynamics (PSID) (2000). The PSID is a key U.S. resource for economic and demographic information about families and individuals. The NIH study investigates parent support for children under the age of 13 in the U.S. This study found that "parents who have high expectations for their children and spend time with them have

children who achieve higher levels than other children" (NIH, 2000, p.5). Race, health and other influences were taken into account in this study and it was found that the parents' expectations were associated with an increase on a child's reading test score (NIH, 2000).

The study also identified other factors linked to school achievement and emotional adjustment, such as: warm relationships with parents, reading versus television, parent's school involvement, and school stability (NIH, 2000). The study also included other factors such as family characteristics and health. Other differences that were found were parent's education level, family size and structure, and child's health, which were linked to education achievement (NIH, 2000). Therefore, children who also had parents who were educated attained higher levels of education. Children from single parent families, or with health limitations had lower levels of education achievement (NIH, 2000). Also, due to the changes in family structure with an increase in single parents, and/or both parents working children are spending more time on average in school, daycare, and accompanying parents on errands or doing household tasks, and less time in free play (NIH, 2000). This study addresses parents as the external factors as contributors to optimal emotional adjustment for children as related to education achievement. In doing this, the study indicates that a student's emotional adjustment is a greater factor for education achievement than when the study is controlled for race or health.

Therefore, with the increase in percentages of AI/AN population achieving higher education it could be assumed that more parents are improving education levels and hence their children are then attaining higher levels of education than the generation before. In the U.S. Census 1990 (data not provided in the U.S. Census 2000) the AI/AN population had a higher number under the age of 18 when compared to the general population, 36 percent to 26 percent,

respectively (USCB, 2004). With the 1990 younger AI/AN population a positive impact on attainment of higher education specifically to the doctoral level by 2005 is conceivable.

Pavel (1993) assessed education achievement using National Longitudinal data for the AI/AN population using Tinto's model. However, instead of using PSID he utilized the National Education Longitudinal Studies (NELS) High School and Beyond study (HS&B) to draw on AI/AN 197 sophomore and 191 senior cohorts to assess institutional departure (Pavel, 1993). The NELS HS&B is a study that collected data "to study the educational, vocational, and personal development of young people beginning with their elementary or high school years, and following them over time as they began to take on adult roles and responsibilities" (NCES, 2003). The HS&B surveyed senior and sophomore cohorts in 1980. Both cohorts were then surveyed every two years through 1986, and the 1980 sophomore class was surveyed again in 1992 (NCES, 2003). Due to the small AI/AN sample size Pavel used a variation of the structural equation modeling that treats all constructs as observed variables versus path analysis and multiple regression models that are too restrictive (Pavel, 1993).

The Tinto's model postulates that a student's pre-entry attributes, such as: family, skills, abilities, and schooling, affect postsecondary intentions, goals, and commitments before entering a higher education (Pavel, 1993). As well, within Tinto's model it is presented that departure from higher education before completion occurs when there is incongruence between the student's pre-entry attributes, intentions, goals, and commitments and the campus environment (Pavel, 1993). In this study, Pavel asks two research questions that deal with assessing quantitative data and its applicability to the AI/AN population. First, "using the structural equation modeling, how well does the Tinto model account for AI/AN postsecondary

departure?" (Pavel, 1993, p. 2). Second, "if the model is rejected as presently stated, can the model be modified to make it more applicable to AI/AN?" (Pavel, 1993, p. 2). Few studies address factors influencing AI/AN and college outcomes, therefore drawing information from more extensive research done elsewhere to identify possible factors is very useful (Pavel, 1993). It is suggested in this study that mainstream social perspectives that are offered in Tinto's model may not adequately explain minority college student's perspective (Pavel, 1993).

In Pavel's study it was found that the Tinto's model was a weak fit between the AI/AN HS&B sophomores cohort data, which means that the analyst should reject the model (Pavel, 1993). Then to answer the second research question, the Tinto model was fitted to the data and paths were identified that were significant (Pavel, 1993). An interesting finding from this study was that a cross tabulation of 'Prior Schooling' by 'Outcome' revealed that 42 percent with low values for 'Prior Schooling' (i.e. low grade point average and pursued a vocational program of study in high school) received a postsecondary degree compared to 26 percent who had high values (i.e. high grade point average and pursued an academic program of study in high school). (Pavel, 1993, p. 12). The summary of findings suggested variations in sophomore and senior cohorts. In the sophomore data important factors included "academic skills, personal abilities, and prior schooling on initial postsecondary intentions", and "academic integration directly influenced informal social integration that, in turn, influences outcome" (Pavel, 1993, p. 15-16). In the senior data, "the effects of initial goal commitment on formal academic integration and initial postsecondary intentions on informal academic integrations are significant (Pavel, 1993, p. 16). Overall, the findings support that positive family support and postsecondary intentions should be available during early in AI/AN student's high school experience (Pavel, 1993).

Furthermore, in college support programs should be in place to enhance academic and social integration of AI/AN students (Pavel, 1993). Tanaka also criticized the Tinto's survey of 104 questions for it did not include questions to "examine power relations with in the college campus that might reproduce inequalities in race, gender, or sexual orientation" (2002, p. 273).

Turner and Lapan also made recommendations after investigating Native American Career Development using the framework of Social Cognitive Career, and Holland's Six Vocational Interest Themes: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional to examine the associations among career interests, career efficacy expectations, gender, and perceived parental support among AI/AN and Caucasian middle school adolescents (2003). The interesting finding from this study was that contrary to previous findings AI/AN students are similar to Caucasian students who both have high levels of interests, efficacy, and perceived parental support for careers typically requiring four or more years of post-high school education (Turner & Lapan, 2003). AI/AN adolescents also have great range of interests in and self-efficacy expectations for Investigative, Artistic, Social, and Enterprising occupations (Turner & Lapan, 2003). Turner and Lapan suggest that there should be an investigation to find ways to facilitate AI/AN "adolescents' transition from career interests to career options, to career choices, and finally to achieving career goals (2003, p. 170). This further supports the value of academic and career sources of support for AI/AN individuals.

Gender Expectations

Lindley and Keithley (1991) discuss the Gender Expectations and Student Achievement (GESA) program that was designed to aid teachers in identifying and removing classroom biases.

GESA was developed to provide peer coaching to teachers regarding how biases are communicated to students in a variety of ways. Lindley and Keithley report "our society continues to hold definite beliefs about the behavior that males and females should display. Values, attitudes, and stereotypes influence the expectations of teachers, counselors, and administrators as they interact daily with students" (p.213). As noted by Lindley and Keithley that continues to be an "…accumulation of perceptions concerning the attitudes and expectations society holds for both genders" (1991, p.214). There still are prevalent expectations of role concerning gender, which has an effect on behavior. "Parents, teachers, and society in general communicate the expectation that males are active, adventurous, aggressive, curious, and independent" (Lindley & Keithley, 1991, p. 214). Furthermore, "females frequently are rewarded for their ability to cooperate, to complete tasks, to produce neat work, and to behave properly in the classroom" (Lindley & Keithley, 1991, p. 214). These authors indicate that due to accumulations of perceptions of gender and the prescribed roles that a bias is formed in school and some students are excluded from opportunities and equal treatment (Lindley & Keithley, 1991, p. 214).

Lindley and Keithley note that in a longitudinal study it was observed that students with a particular aggressive personality trait are more successful in pursuing career interests and attaining academic achievement (1991). Students who do not excel in school who are aggressive are too aggressive or are over-aroused, i.e. an inverted bell curve can be used for aggression, motivation, and competitiveness to predict a student's success (Lindley & Keithley, 1991). An aggressive girl is an aggressive girl and her social environment may not influence this trait. Males or females who are optimally aggressive are more successful in school and in their careers

(Lindley & Keithley, 1991). It is a specific bias when roles are predetermined that discourages a student to develop in an area that may not conform to his or her gender role expectations. These biases have an effect on a student pursuing higher education or career interests.

Sammons also examined gender, plus ethnic and socioeconomic factors that may attribute to differences in progress and attainment in education. Sammons addressed these factors to statistically predict the increased risk of low education attainment (1995). Sammons performed a longitudinal analysis of student achievement over a 9-year British study that included year 3, 5, 6, and 11, which followed students from primary school, to secondary transfer and to General Certificate of Secondary Education (GCSE) (1995). This study synthesized the results of an existing multi-level analysis of extended 'School Matters' data set (Sammons, 1995). Sammons found that there was "…significant differences in attainment at all levels, but particularly in terms of public examination results and entry into higher education for those of different social class backgrounds"(1995, p. 466). In addition, measures of low income, large family size, and one parent family status, and poor housing conditions were also found to be powerful predictors of academic attainment. Sammons noted the measures were not additive, however there is evidence of a cumulative disadvantage (1995, p. 466).

It was noted by Sammons that in previous research seven factors concerning pupils' background could be used to predict the statistically increased risk of low attainment at age 11. The factor given by Sammons were (1995, p. 466-467): eligibility for free meals; large family size; one-parent family; semi- or unskilled manual parental occupation or unemployed; behavior; fluency in English (incomplete); and ethnic background. Only 11 percent of the pupils who were affected by any factor were in the lowest verbal reasoning band compared with nearly 92 percent

of those affected by all seven (as in Sammons, 1995, p. 467). "High social class, gender, greater level of parental educational experience and qualifications, cultural capital in the home, and membership of certain ethnic groups" were associated with higher educational attainment, and except for gender, participation in higher education (as in Sammons, 1995, p.467).

Economic Status

An individual's earning potential and consequently family income can be increased considerably with the attainment of a post-secondary education. With a higher level of education the AI/AN population family income could also be increased. In the U.S. Census 1990, the nationwide median family income was $35,225 compared to AI/AN family median income of $21,750 (USCB, 2004). For an AI/AN household with a female householder with no husband present, the median income was $10,742 compared to $17,414 in same household type in total population, or total all families $35,225 (USCB, 2004). AI/AN in 1990 labor force was 69 percent of men and 55 percent of women, compared to the total 74 and 57 percent respectively (USCB, 2004). There are five percent fewer AI/AN men in the work force and only two percent less AI/AN women than the total (USCB, 2004).

The PSID was also utilized by Mayer (2001) to study the increase of economic segregation in the United States between 1970 and 1990, and how low-income children's educational attainment may have been affected (Mayer, 2001). Mayer also utilized census data to assess the level of economic segregation in the states (2001). The Mayer study indicated that there was an increase in economic segregation between census tracts in the same state and it had no effect on the overall educational attainment, however, it exacerbated the inequality between

low-income and high-income children (2001). The effects may have been more related to school finance and other factors, which can be influenced by competition than between low- and high-income neighbors (Mayer, 2001). Mayer points to evidence that with reformed school funding, which reduced reliance on local taxes and spending discretions, financial support became more equal as did test scores (as in Mayer, 2001, p.5).

This study indicated that school financing might have an effect on a student's education. Mayer noted that school spending could increase the education achievement of neighborhoods (2001). Therefore, low socioeconomic neighborhoods with low amounts of school spending will have lower education achievement. This study predicts that if you are a student who lives in a low socioeconomic neighborhood that the school's finance would be lower and therefore the student's education achievement would also be lower. Therefore, it also implies that a student who is from a low socioeconomic background who lives in a high-income neighborhood may attain a higher level of education. As concluded by Mayer, "the effect of segregation on educational attainment is mainly due to inequality in mean neighborhood income and not to inequality among neighbors in the same neighborhood" (2001, p. 13).

However, Tomlinson's (1989) view as observed by Sammons that "despite strong evidence of 'underachievement' by the minorities in past studies, in more recent years there has been 'marked improvement in the progress of minority pupils" (as in Sammons, 1995, p. 476). Through the data assessment it was made clear that socioeconomic factors, such as eligibility for free school meals (a measure of low family income) and the social class of fathers' occupations have a pronounced impact on reading and mathematics progress (Sammons, 1995). At GCSE the low socioeconomic effects become relatively greater over time and the gap widens for

absolute education achievement (Sammons, 1995). Sammons also noted an important disadvantage that low socioeconomic groups may not have the access to resources such as books, computers, and places to work, and possibly parental help (Sammons, 1995). For gender, it was found that in the analysis of "achievement for the School Matters cohort girls outperformed boys in traditional tests of reading and (at age 10+) mathematics" (Sammons, 1995, p. 475).

In the United States studies have focused on the disadvantages of minorities, gender, and low socioeconomic backgrounds. This study supports some of the findings that equal opportunity programs have been founded on. Possibly due to the equal opportunity programs, higher aspirations of parents, and the recognition of the need of education achievement to attain career success, minorities may eventually close the gap in education attainment. This trend is similar to what is presently found with female students, however, it appears that students who come from a low socioeconomic background still have a disadvantage for education achievement.

Enrollment Predictions

The U.S. Department of Education, National Center of Education Statistics (NCES), Projections of Education Statistics, collects data for enrollment predictions. Largely, the AI/AN student enrollment increased significantly from 1976 to 1994, 76,100 to 127,400 respectively. The U.S. Department of Education predicted in 1991 that by 1994 there would be only 102,000 AI/AN students enrolled in higher education (Pavel *et al.*, 1998). Regardless, the same department stated that there were 102,800 AI/AN students enrolled in higher education in 1990 (Pavel *et al.*, 1998). This indicates that U.S. Department of Education did not predict an increase

in enrollment in the following three years. The factors are not mentioned in this report as to why the U.S. Department of Education predicted no increase in enrollment; however, in general it is a pessimistic forecast. The AI/AN enrollment in higher education also increased in 4-year institutions by 75 percent from 1976 to 1994.

Astin notes that "a frequently used defense in the "prediction" argument: We select those students with the highest grades and test scores because these measures "predict" performance in college" (1999, p.13). Many AI/AN students learning style is not a "good fit" with the traditional teaching styles. Test scores are large denominator that determines access to higher education. This may leave many AI/AN students under prepared and therefore increasing the likelihood of not advancing to a higher education. Astin believes that under prepared students are over looked by institutions focused on academic excellence, which is based more on test scores and research (1999).

Hunter and Bartee confirm, "the demands that are being placed on public education and its validation by test scores are tremendous" (2003, p.152). The No Child Left Behind Act (NCLB) of 2001 initiative by President George Bush approaches schools as factories where there are certain inputs and correlating outputs (Hunter and Bartee, 2003). The assumption is that the best practices will yield the best results (Hunter and Bartee, 2003). Therefore, the measurement of learning by minority students is based solely on performance on standardized tests and is used for accountability (Hunter and Bartee, 2003). Using standardized test scores diminishes the effect of systemic discrimination, and differences in scores are being used to indicate education deficits (Hunter and Bartee, 2003). Standardized test scores should only be one component of educational achievement and should not be a measurement of a student's success or predictable

achievement (Hunter and Bartee, 2003). The NCLB approach to education is too linear and homogenous and widens the achievement gap between racial majority and minority students. The test industry is marketing towards the most academically prepared students. Hunter and Bartee argue that increasing more competition and choice does not close the achievement gap between racial minorities and racial majorities (2003). African American/Black students still score lower than Whites on the National Assessment of Education Progress, and in 1997 high school drop out rates were still twice as high as Whites (Hunter and Bartee, 2003).

Higher Education Achievement

Attending a college or university may be a goal for many AI/AN high school students. To have access to institutes of higher education aspiring post-secondary students must write challenging exams and meet specific test scores to gain entrance. Colleges and Universities define their excellence in terms of the test scores of their entering freshmen (Astin, 1999). Test scores can place AI/AN students at a competitive disadvantage. Colleges and universities enforce the competitive and individualistic learning environments (Astin, 1999), which is not an optimistic learning environment for AI/AN students.

AI/AN Women in Institutes of Higher Education

The Higher Education General Information Survey (HEGIS) (1973/1974) was replaced by the IPEDS (1993). Both databases were used to observe just under 20 years of differences in education enrollment. From HEGIS 1973/1974 to IPEDS 1994 there was a 98 percent increase by AI/AN women enrolled in IHEs, from 37,600 to 74,400 respectively. In 1993, over half of

the AI/AN population who received an associate's, bachelor's, master's, and doctor's degrees were women (IPEDS).

The greatest increase in enrollment in higher education was by AI/AN women. From 1973/19474 (HEGIS) to 1994 (IPEDS) there was a 98 percent increase by AI/AN women, and a 52 percent increase by women overall. It is interesting to note the positive change of women enrolled in higher education as the total female population enrolled approached 8 million by 1994 (IPEDS). By 1994, AI/AN represented 0.8 of the total U.S. population, however, their education enrollment was one percent of the total population enrollment of 74,400. This indicated that there were a higher percentage of AI/AN students enrolled in higher education than what is represented in the total population.

Nonetheless, the freshman (1997-1998) graduation rate for students in a National Collegiate Athletic Association (NCAA) Division 1 institute for AI/AN women was 46 percent, total AI/AN women students equals 8,046, in comparison to 63 percent of total women with a population of 1,211,546 (2004). The AI/AN women graduates represent 0.7 percent of the total women graduates, which is very low. The 2004 graduation rate for female students who are Asian/ Pacific Islanders was 70 percent, AA/B was 45 percent, Hispanic was 53 percent, White was 64 percent, Non-resident Aliens was 63 percent, and Other was 60 percent (NCAA, 2004). These percentages indicate that there is a challenge in completing higher education for AI/AN and AA/B women students within a Division I program when compared to the total population. Even though the percents are similar between the AI/AN and AA/B graduate rates, it is important to note that the AA/B total was 150,869 women graduates (12.5 percent of total female population), which is 18 times more than the AI/AN representation (NCAA, 2004). Therefore,

there is a greater presence of AA/B graduates on campus, which is important for mentorship and peer development as sources of support.

This low graduation rate of AI/AN women could be due to a variety of reasons, such as; lack of funding, part-time course loads, change of education major, incompatible teaching strategies and style of learning, inadequate high school preparation, and/or lack of women or AI/AN sources of support. Astin states that a real problem with institutes is that "we forget that our institution's primary mission is to develop students' intellectual capacities, not merely to select and certify those students whose intellectual talents are already well developed by the time the reach us" (1999, p. 20).

Graduate Level Higher Education

In 1976, 5,100 AI/AN students were enrolled in graduate work and by 1994 the enrollment increased to 8,100, 63 percent increase (Pavel *et al.*, 1998). Approximately one-third of the AI/AN population enrolled in masters (36 percent) or doctoral (31 percent) degree programs were in the Education Department. This is an interesting observation for this should have an impact on available sources of support of AI/AN peers, teachers, faculty, and researchers in education. Overall, by providing AI/AN faculty and mentors these individuals can demonstrate that higher education is accessible and attainable. Furthermore, the individuals who complete their Master's or Doctorate degree in the field of Education may contribute to learning or teaching theories that may have a greater focus on the AI/AN population that could develop curriculum that focuses on AI/AN educational development, which would have a positive impact on AI/AN students.

AI/AN Doctoral Degree Recipients

According to the 1994 National Research Council, Survey of Earned Doctorates (SED, 2000), the median age of AI/AN male and female doctoral degree recipients was 40.0 years old compared to 33.6 years old for the total population. This is a difference of approximately 6 to 7 years of age to complete a doctorate degree program. The SED 2000 total time of 12.0 for AI/AN doctoral degree recipients in education was longer that the total population time of 10.3 total years. One of the challenges with the later median age for completion of a doctoral degree is that the number of productive years is less than for the total population. This difference of 6.4 years of productivity has an impact when observing the approximate age of retirement at 65 years old. However, the AI/AN may have spent more years in between degrees working so these years may not be considered lost. Nevertheless, AI/AN mortality rates are not as high as the total population. AI/AN life expectancy has increased to 39 percent, from 51 years of age in 1940 to 71.1 years of age in 1995 (USCB, 2004). However, life expectancy is low when compared to the 1995 total population life expectancy of 78.9 years of age (USCB, 2004). This increase in years of life expectancy is positive however, it is still lower than the total population by almost eight years. Therefore, an AI/AN individual who receives a doctoral degree has 25 productive years on average for a career post-doctorate, whereas, a non-AI/AN individual from the total population has 31.4 productive years to contribute to the community as a doctor and a mentor in a given field. This is important due to the number of productive years AI/AN individuals are available to contribute to the education field as mentors, leaders, and role models that could make an impact on the AI/AN community.

Therefore, sound education advice or counseling may assist AI/AN students to find direction to available programs in higher education, which could reduce the number of years in college. Another way to shorten time in attainment of a higher education is to develop programs to assist individuals from low socioeconomic backgrounds, or provide support for individuals who are working full-time to return to school earlier.

The longest median elapsed time to secure a doctorate was with individuals whose major field was Education (SED, 2000). The AI/AN had the highest number of doctoral degree recipients in the field of Education, a total of 51, and in all other fields a total of 118. The next highest total was in the field of Social Sciences and Psychology, a total of 40, for AI/AN doctoral degree recipients (SED, 2000). Therefore, just over 53 percent of AI/AN doctoral degree recipients graduated in the field of Education or Social Sciences and Psychology, compared to the total population of 32.7 percent (SED, 2000). The longer time to complete a doctoral degree could be due to the need to work during the program to secure funds to continue education.

For doctoral degree financial support the AI/AN population required greater financial aid to be enrolled than the total population (SED, 2000). In SED 2000, when observing doctoral program support "own resources" (44.7 percent) for AI/AN population was the highest source when compared to teaching assistantships (10.6 percent), research assistantships (10.6 percent), fellowships (24.8 percent), foreign government (1.2 percent), employer (6.2 percent) and other (1.9 percent). In SED 2000, own resources used for doctoral degree recipients for the total population was 32.2 percent, for AA/B population was 47.6 percent, Asian population 21.8 percent, White population 41.0 percent, and for Mexican American and Other Hispanic average

42.5 percent, and Other/Unknown Race 27.8 percent. The AA/B and AI/AN doctoral degree recipients have the greatest reliance on personal funds. The AI/AN doctoral degree recipients may use a higher amount of personal funds caused by greater financial independence from a lack of family financial support, and/or do not know how to access or apply for university funding programs. Many AI/AN students enter college with no resources other than what they receive through financial aid (Deirdre, 1999).

The U.S. Department of Education, Office of Postsecondary Education, provides the primary source of federal funding for AI/AN postsecondary education (2004). Additional federal agencies are the Department of Interior's Bureau of Indian Affairs, and the Department of Health and Human Services' Indian Health Service (IHS). There is also financial assistance from state, private foundations and organizations, and tribal organizations. There is an abundance of financial aid programs however the financial needs of AI/AN students are unmet. Furthermore, to continue on to graduate school the tuition costs are higher in doctoral degree granting IHEs, and the AI/AN base family income is lower causing limitations in attainment of a higher level of education (Census, 2000).

Faculty Positions

The doctoral degree AI/AN recipient's plans for employment (74 percent) and postdoctoral study (22 percent) resembled the total population (IPEDS, 1993). The male AI/AN rate of employment at Institutions of Higher Education (IHEs) was outpaced by 1993 by the AI/AN women who represented 53 percent in IHEs AI/AN staff. The number of faculty employed at IHEs is less stable to count as well due to the challenges with self-identification.

The IPEDS indicated that in fall 1993, 3,407 AI/AN were employed full or part-time as faculty in IHEs compared to the total of 915,474. Furthermore, the median full-time faculty salaries for AI/AN were $39,118, compared to the total full-time salary of $43,205 (IPEDS, 1993). These numbers indicate that AI/AN faculty are underrepresented and are underpaid. By sex, the 1993 IPEDS median salary is lower for women than men for the total (81 percent), and for AI/AN (85 percent). However, if the AI/AN women's faculty salary is compared to the total men salary the percentage is decreased to 76.8 percent instead of 85 percent, and is still considerably lower than the 81 percent of the total women's faculty salary (IPEDS, 1993).

Attributes for AI/AN Doctoral Degree Recipients

Ethnic Minorities: Civil Rights and Feminism

While viewing the statistics of AI/AN women, it becomes apparent that there are greater similarities to other minorities such as women who have AA/B and Hispanic origins. Access to higher education has increased for all minorities, which is evident by the number of doctoral degree recipients being represented from each ethnic group. France Winddance Twine who is AA/B woman with an American Indian father, attended a catholic school, and recollects that her "earliest memories are of civil rights and women's movements, and although I was too young to participate actively, I was taught that these social justice movements gave me access to a university education" (2000, p. 1228). Besides being a minority and France Winddance Twine was also a feminist. Winddance Twine acknowledged the twofold challenge of the difficulties to acquire an education as an ethnic minority, but also as a woman. Winddance Twine stated that in the pre-feminist world there lacked "women faculty, feminist books, feminist publishers, and

women graduate students" (1228). However, some AI/AN cultures are matrilineal in culture, and require maternal descent to enroll a member, like the Seneca tribe in New York (Garrouette, 2001).

As author Tohe proclaimed, "there was no need for feminism because of our matrilineal culture. And it continues. For Diné women, there is no word for feminism" (Tohe, 2000, p. 110). Women were expected to act as leaders for the family and tribe and despite 500 years of colonialism the Diné (or Navajo) women still possess qualities of leadership and strength (Tohe, 2000). The male role as a protector and provider for the family seems to have diminished in many instances where the women's roles have persisted in the Diné culture, for women have adapted more easily (Tohe, 2000). Tohe explains that even though she writes about the Diné she sees many of the same qualities in women from other American Indian tribes (2000). Nonetheless, Tohe acknowledges that when AI/AN women "step into the Western world, feminism becomes an issue, and we must confront and deal with the same issues that affect all women" (p. 109).

Tribal Affiliation

Tribal membership separates this group of Doctoral Degree recipients from all other minorities. No other minority is required to be registered to provide ethnic identity. Tribal affiliation ties an individual into a community that has a common culture. AI/AN tribes have an advantage in many instances to trace ancestry back within their home country. However, many languages, homesteads, and traditions have been lost due to colonization. However, some tribes were able to preserve their culture, language, and exist on part of the land that was shared by the

original tribes territory. Other minorities that exist in the United States do not have any access to their original homelands, or to groups of people practicing valuable traditions. To use tribal affiliation to prove ethnic identity, and to measure blood quantum through parent lineage strengthens bonds to tribes and validates identity. However, the "ultimate and explicit federal intention was to use the blood quantum standard as a means to liquidate tribal lands and to eliminate governments trust responsibility to tribes along with entitlement programs, treaty rights, and reservations" Garroutte, 2001). Up to one-third of tribes use lineal (direct) descendant of another tribal member instead of blood quantum to determine tribal membership (Garroutte, 2001). Some tribes also evaluate according to whether a child is born on a reservation, by an individuals community participation, or request votes from tribal councils (Garroutte, 2001).

Resourcefulness

It cannot be determined with current statistics provided by SED or the U.S. census how many women who have their doctorates are from low socioeconomic backgrounds, or are living below poverty. An unfounded theory is that AI/AN women are more resourceful than non-native women due to the cultural ways that teach them to value the earth and the gifts it offers. AI/AN people are "students of their functional environments, bound by materials and cultural needs and constraints, striving for maximum sustained yield rather than maximum production, yet unafraid to exploit moments of periodic abundance (Lewis, 1995, p. 432). Historically, AI/AN communities lived in dwellings close to earth and cognizant of its rhythms and resources, and have much to teach the industrialized world about living with the land (Lewis, 1995). With

accumulated wisdom passed on from generation to generation AI/AN managed their immediate relationships and physical environments based on cycles of nature (Lewis, 1997). In Lambert's article from 'Savages' to Scientists (2003), Gregory Cajete, Ph.D. is quoted in stressing that "the understanding that indigenous people have of the natural world is profound. It influences our philosophies, our cultural ways of life, and our customs, languages, and all aspects of our being" (2003).

Resilience

AI/AN have responded in diverse ways as individuals and groups to refashion environments to meet their cultural and material desires, and did not merely passively adapt to their environments (Lewis, 1995). The AI/AN population is resilient. According to HeavyRunner and Marshall, resilience is "coming to know how you think, who you are spiritually, where you come from, and where you are going" (2003, p.15). As mentioned in previous sections, the AI/AN population has a list of social issues and risks that work against them to succeed in education. In general, they encounter higher rates of poverty, suicides, onset of diabetes, alcohol and substance abuse, single parents, and children placed in foster homes, and, less years to live than the general population (HeavyRunner & Marshall, 2003). As indicated through history AI/AN are innately resilient. Dr. Richard Little Bear, president of Dull Knife Memorial College in Montana was quoted by HeavyRunner and Marshal, voicing high expectations to tribal college students "Don't let being a single parent, the first in your family to go to college, or struggles with family addictions deter you from your education. Chase your goals…." (p.17). Unfortunately, with these common themes of social issues and risks AI/AN

women must learn to cope, adapt, and manage their struggles in order to gain education success. A Diné writer, Tohe, explained that her female relatives had always shown courage, determination, strength, persistence, and endurance in their own way (2000).

Attributes for African-American Doctoral Degree Recipients

Bickham-Chavers investigated perceptions of African-American Doctoral degree male (6) and female (12) recipients experience at predominantly White northeastern universities (2003). The qualitative data from interviews could be related to other minority doctoral degree recipients such as AI/AN for there are some parallels with racial subordination within the U.S. society, such as history of oppression, and lower percentage of education achievement at the doctoral level. In the Bickham-Chavers analysis, three themes emerged: the importance of adviser/advisee relationships, the role of racism and discrimination, and the need for social support (2003). Each student was found to have a proactive stance and successful persistence that was contributed to by social support, "spiritual beliefs, coping strategies, motivation, strong adviser-student relationship, goal commitment, on-campus involvement, and a willingness to make sacrifices" (Bickham-Chavers, 2003). To enhance the persistence of African-American students it was presented that more African-American faculty be hired, and diversity training offered for faculty, staff members, and students (Bickham-Chavers, 2003). Furthermore, that college programs elicit feedback from students themselves and promote close professional relationships with advisers (Bickham-Chavers, 2003). Bickham-Chavers felt that there was also a lack of research on doctoral degree recipients due to the smaller number of students (2003). African American students were more than likely to leave a predominantly White institute than

any other race (Bickham-Chavers, 2003). Researchers summarized that this problem was due to racism, marginalization, and alienation (2003).

CHAPTER THREE

The following section on methodology was designed to bridge the gap and update information provided in the literature review. Population, methods of data collection and the descriptive data from the U.S. Census 2000 and SED 2000 has been highlighted. Data was assessed using available statistics through national databases, and trends in AI/AN doctoral degree recipients were explored and compared to other women in different races with their doctoral degree. Since background information was provided in the literature review on the AI/AN group the total number of women who completed their doctorate from 1992 to 2002 was further assessed. The SED 1992 to 2002 data was also compared to women with doctoral degrees from other races. Trends in the data was observed, compared, and analyzed to provide insight into the future of AI/AN women doctoral degree recipients.

Furthermore, a survey questionnaire was developed and completed by female AI/AN doctoral degree recipients to provide quantifiable data on sources of support available for AI/AN women doctoral degree recipients. The information provided by the survey was to provide information from AI/AN doctoral degree recipients on undergraduate and graduate schoolwork; mentorship during doctoral degree studies; and personal and family background.

Methodology for AI/AN Women Doctoral Degree Recipient Trends

The Chi square test of association allows evaluation of associations (or correlation) between categorical variables such as these and was used in this analysis. The independent variable is “race”. The dependent variable is “doctoral degree” which represents the total number

of doctoral degrees attained per year and is continuous. The "race" variable is a nominal and discrete which allows only qualitative classification with no inherent order. The "race" variable can be measured only in terms of whether the individual items belong to a distinct and different category. The alpha level of 0.01 was used for all Chi square statistical tests. The frequency data is provided by SED (2000) for each category and was analyzed using SPSS Syntax.

Population for AI/AN Women Doctoral Degree Recipient Trends

The female populations used in this data analysis for comparison are AI/AN, AA/B, Asian, Hispanic, White, and Other/Unknown. These populations represent all groups of females who have completed their doctoral degree as documented by the SED Summary Report 2002. The databases were used for descriptive observations were the Survey of Earned Doctorates (2000) and the U.S. Census 2000. These databases provide surveyed information on total populations that include ethnicity, level of education attainment, and gender for the same time period. The data for specific areas was collected as indicated in Table 1.

Table 1

Collection of Data for Female Representation Compared to Total Population and Total Doctoral Degree Recipients 2000

Characteristic U.S. citizens only	Total population	Total female population doctorate recipients
Total population	Census 2000	SED 2000
Total females	Census 2000	SED 2000
AI/AN female	Census 2000	SED 2000
Black female	Census 2000	SED 2000
Mexican American female	Census 2000	SED 2000
White female	Census 2000	SED 2000

Source: Hoffer, Sederstrom, et al., (2003), U.S. Census Bureau, Census 2000 (2004)

The collection of data was used to observe any trends for each race category of women and for women who have completed their doctoral degree. Each race group is linked for they are all women who may have experienced gender discrimination and may have education challenges to overcome. The AI/AN, Asian, AA/B, and Hispanic groups may have also experienced racism due to stereotypes attached to external appearances that are related to certain race categories. These groups are chosen also due to categories provided in the U.S. Census and the SED. The SED 2000 does not separate race categories by "alone" or "in combination" so the Census data used was also not separated. The doctoral degree recipients from SED 2000 are related to Census data 2000, but data was not statistically analyzed for there was not a category that indicated the total population for doctoral degree recipients by race or age.

Data Collection for AI/AN Women Doctoral Degree Recipient Trends

Data was collected from the SED Summary Report 2002 found on the National Opinion Research Center (NORC, 2004) website which provides the figures to be utilized for this data analysis. The SED Summary Report 2002 includes the SED 1992 to 2002 summary findings for race and gender, year by year. The data collected from the SED 1992 to 2002 survey reports was sponsored by the National Science Foundation (NSF), National Institute of Health (NIH), the U.S. Department of Education (USDE), the National Endowment of Humanities (NEH), the U.S. Department of Agriculture (USDA), and the National Aeronautics and Space Administration (NASA) (Hoffer, Sederstrom, et al., 2003).

The U.S. Census 2000 databases provided by the U.S. Department of Commerce, Bureau of the Census was utilized in this study for descriptive information. These databases provide surveyed information on total populations that include race, doctoral degree attainment, and/or gender.

The methodology report for data used in the SED 2001 is accessible on the NSF, Division of Science Resources Statistics website (2003). Reports and tables from printed material was collected from appropriate sources and documented accordingly from the National Opinion Research Center (NORC) SED website (2004). The SED 1992 to 2002 data was retrieved from the SED 2002 report, Appendix, table B-2C (Hoffer, Sederstrom, et al., 2003). The most recent Methodology Report for the SED was for data collected from the July 1, 2000 to June 30, 2001 for the 2001 SED report. The total respondents were 37,523 that represented 92.1 percent of the doctoral degree recipient universe of a total of 41,368 doctoral degrees. The NORC has a Case

Management System that monitors any changes greater or lower than ten percent in an institution's number of doctoral degree recipients. Multiple survey instruments were used therefore a student had a choice of returning a hard copy or completing the survey on-line. In the SED 2001, 90.9 percent of the sources were retrieved from hard copy. Also, it was the first year that online surveys were made available which accounted for 1.2 percent (501) respondents. In 2001, 416 institutions conferred at least one research doctorate, and 23 institutions granted none between the dates that data was collected.

For doctoral recipients who did not complete a SED survey the NORC performed follow-up mailings that included: 6,059 first letters, 5,806 reminder postcards, 4,185 second letters, and 2,794 third letters between December 2000 to April 2002. The SED 2001 survey forms that were partially completed and filled out by the doctoral institution were not included in the response rates.

The NORC Data Preparation Center entered the data from the questionnaires received by using computer assisted data entry (CADE). A random sample of 9.9 percent (3,681 cases) of the total was verified by NORC of the CADE. The NORC determined the CADE had an error rate of 0.99 percent, which was derived by the following formula:

Error rate = Number of Errors x 100 / Number of Opportunities

The number of "opportunities" is the product of the number of items and the number of questionnaires. The SED 2001 error rate of 0.99 is practically unchanged from the SED 2000 report of 0.97. The SED survey is the only data sets that were utilized for data analysis in this study.

The United States Census is a decennial survey that was last conducted in April 2000. The 2000 U.S. Census was used in this study for descriptive statistics but not for statistical analysis. The Census 2000 data was collected from every household in the United States, and all of the country's territories. Information is protected so that individuals can not be identified from the results, however, information is made public after seventy-two years. Information for the U.S. Census 2000 data is made available through reports, data sets, and reference or thematic maps that are printed, on CD-ROMS, DVD, or on the Internet. The population data for this study was mainly retrieved from the U.S. Census 2000 listed by the United States Census Bureau (USCB) website (2005) that is listed in the reference list.

Both the U.S. Census and the SED, total populations were surveyed with reliable statistical efforts and high response rates and are not subject to sampling errors. The U.S. Census includes all households in the nation with territories, and the SED includes all colleges that grant research doctoral degrees. Information is protected in both surveys to ensure that individual identity cannot be established. The reliability of the information used is high due to the consistency of the surveys and the measuring devices are reports from total populations versus samples from the subject populations.

United States Census

Data was gathered from tables available from the United States Census 2000 to gather descriptive statistics on the American Indian/Alaskan Native female total population, and AI/AN female total population of doctorate recipients and compared to SED 2000 data. (See Table 2.) Data was also collected on the total U.S. population, total female population, for Asian females,

African American/Black females, Hispanic females, White females, and Other/Unknown group of females. The SED 2000 report was chosen for this comparison so that it would be the same year as the U.S. Census 2000. However, due to the extremes in female population between races (for example. White females total over 110 million), and the low population of doctoral degree recipients within races (i.e. AI/AN female total less than one hundred) this data was not used for statistical analysis. However, the Census data was extracted to provide useful descriptive information on women, race and doctoral degree recipients in the year 2000. The SED 2000 provides a cross section and the statistics reported in the female doctoral degree recipients from each race for 2000 only, and are not cumulative.

Table 2

Female Representation Compared to Total Population and Total Doctoral Degree Recipients 2000

Characteristic U.S. citizens only	Total population (Census 2000)	Total population doctorate recipients (SED 2000)
Total Population	281,421,906	27,888
Total Females	143,368,343	13,777
AI/AN Female	2,086,059	93
Asian Female	5,294,257	623
AA/Black Female	19,104,101	1,069
Hispanic Female	9,710,244	633
White Female	110,409,779	11,106

Source: Hoffer, Sederstrom, et al., (2003), U.S. Census Bureau, Census 2000 (2004)

In the U.S. Census 2000, the total population is over 281 million, with over 143 million women from all age and race groups. The total White female population clearly is the dominant group represented within the 2000 total female U.S. population. The AA/B population is the highest minority population and represents over 19 million in comparison to the Hispanic population (almost 10 million), and the AI/AN population (over 2 million). The White female population has over 119 times more doctoral degree graduates than the AI/AN female population (SED, 2000), but only 106 times more in total female population than the AI/AN females (Census, 2000). The AI/AN female population has the smallest female group in the Census 2000. The White population is the most represented racial group in the total 2000 female population and 2000 doctoral degree recipient population.

The Census 2000 total U.S. female population equals 50.9 percent of the total population, which indicates that for all age groups there are slightly more females than males. The SED 2000 total of doctoral degree recipients equals 27,888 with 13,777 females (49.4 percent). Therefore, the females are underrepresented in the SED 2000 population. Moreover, AI/AN females represented 0.33 percent of the total population (men and women), or 0.68 percent of the total female population. The 2000 AI/AN female doctoral degree population was very small in comparison to all other populations.

The Census 2000 AI/AN total female population is approximately 0.7 percent of the total U.S. population, and is only 0.3 percent of the total SED 2000 doctoral degree recipient population. Therefore, the representation in the total doctoral degree population is less than half (42 percent) when compared to the total representation in the U.S. population. The Census 2000 AA/B total female population is approximately 6.8 percent of the total U.S. population, and is

3.8 percent of the total SED 2000 doctoral degree recipient population, which represents slightly more than half percent (55 percent) representation. AS well, the Hispanic population has 66 percent of their total population percentage represented in the SED 2000 doctoral degree population. The Asian and White populations are represented by 116 percent, and 102 percent respectively.

The SED 2000 AI/AN doctoral degree recipient population is also the smallest group in comparison to White (11,089), Asian (623), AA/B (1,088), and Hispanic (633) with a small total of 93. The AI/AN 2000 population is the most underrepresented in the doctoral degree female population. For example, the AA/B doctoral degree recipients are over eleven times greater than the AI/AN population (SED, 2000). Beyond the doctoral degree population the AI/AN population was also small in totals when compared to the total U.S. population and other female groups.

When the AI/AN doctoral degree populations were compared to total populations of AI/AN the numbers are small and discouraging if they are used to predict the probability of success for an AI/AN women to attain a doctoral degree. The total AI/AN female doctoral degree recipients equaled 93 for year 2000 (SED), which is not impressive when compared to the total AI/AN female population of 1,035,975 (Census 2000). The total female doctoral degree recipients within the total AI/AN female population represent only 0.009 percent of their group.

The group of 93 female AI/AN doctoral degree recipients (SED 2000) compared to the total U.S. female population of 143,368,343 equals 0.00006%, and to the total U.S. population of 281,421,906 represents 0.00003 percent (Census 2000). The purpose of observing these

numbers was to provide descriptive information on the degree of how low the total numbers of AI/AN a woman receiving their doctoral degree was in 2000.

Overall, the total female AI/AN population represented 0.37 percent of the total U.S. population (Census 2000). AI/AN women with a doctoral degree equaled 0.33 percent of the total SED 2000 population, and were similar to the 0.37 percent of the Census 2000 total U.S. population.

The AI/AN female doctoral degree recipient population is underrepresented in comparison to the total U.S. population. However, the total U.S. population represents age groups from birth to over 90 years old. Due to the large total numbers of the AI/AN population and the total U.S. population the comparison of AI/AN doctoral degree recipients cannot be compared without error. Overall, the SED 2000 total male and female doctoral degree recipients (27,888) represent only 0.01%, and the total female population (13,777) represents only 0.005 percent of the total U.S. population.

Survey of Earned Doctorates

To identify trends data was collected from the SED for doctorate recipients for years 1999 to 2002 for the total AI/AN population. It was unexpected that the number of AI/AN women doctoral degree recipients decreased from SED 1999 from 118 to 79 in 2002 (Hoffer, Sederstrom, et al., 2003). (See Table 3.)

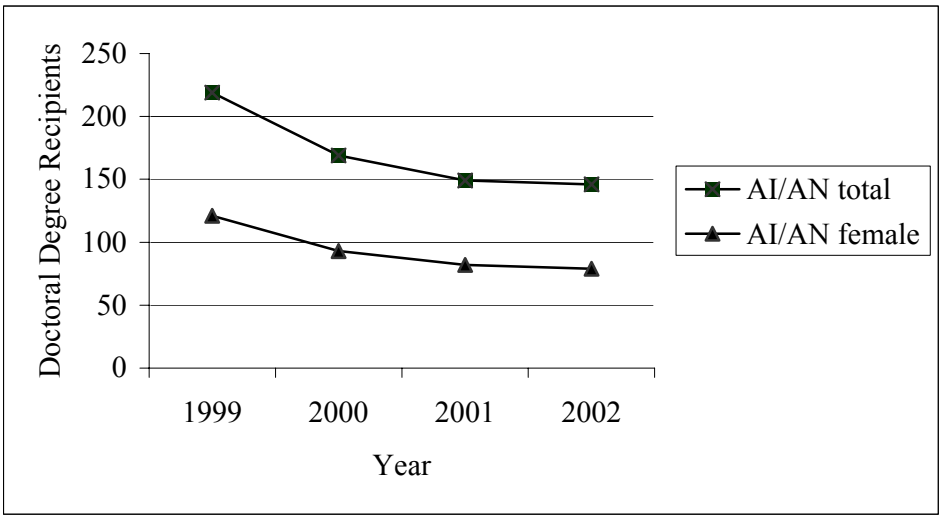
Table 3

AI/AN Doctoral Degree Recipients Who Are U.S. Citizens

Year	AI/AN total	AI/AN female
1999	219	118
2000	169	93
2001	149	82
2002	146	79

Source: Hoffer, Sederstrom, et al. (2003)

This indicates a trend that the AI/AN total number and the total female doctoral degree recipient populations are decreasing for the last four years to the most current data available in the SED 2002. (See Figure 1.)



Source: Hoffer, Sederstrom, et al. (2003)

Figure 1. AI/AN doctoral degree recipients who are U.S. citizens

The downward trend from 1999 to 2002 instigated further investigation back to 1992 to explore any other trends in the total number of AI/AN women receiving a doctoral degree. In addition to collecting data on the AI/AN populations the other races were examined for trends in total doctoral degree recipients from 1992 to 2002. When observing the total number of doctoral degree recipients from 1992 to 2002 it was evident that each race group had experienced positive and negative changes over those years. In Table 4, each row represents a given year and each column represents the total female doctoral degree recipient per race. Therefore, the first column, and the first row indicate that in 1992, 67 AI/AN women were granted doctoral degrees. The lowest total doctoral degrees that the AI/AN population within this ten year time span was 60 in 1993, and the highest total doctoral degree recipient total population was 188 in 1999.

Table 4

Female Doctoral Degree Recipients by Race and Year: 1992–2002

	Female U.S. Citizens						
Year	AI/AN	Asian	AA/ Black	Hispanic	White	Other/ Unknown	Total
1992	67	310	572	368	10,066	108	11,396
1993	60	332	668	410	10,385	76	11,873
1994	72	354	689	446	10,751	101	12,330
1995	68	467	806	459	10,854	121	12,668
1996	84	463	774	477	11,103	154	12,947
1997	88	553	807	520	10,647	462	12,632
1998	85	513	961	594	11,030	387	13,206
1999	118	540	1,020	674	10,894	226	13,305
2000	93	623	1,069	633	11,106	287	13,587
2001	82	648	1,023	628	10,637	371	13,199
2002	79	617	1,038	697	10,291	390	12,917

Source: Hoffer, Sederstrom, et al. (2003)

The 1999 dip of total doctoral degrees could be related to a decrease in faculty positions on the tenure track to hire part-time adjunct faculty, time required to complete doctorate being longer versus completing a professional degree, and inadequate preparation due to lack of mentorship, AI/AN leaders in education, economic and social status. The pursuit of faculty positions does not seem as attractive as it may have been decades ago, and even though more minorities are being accepted into colleges they may be ill prepared to progress to doctoral programs due to financial resources and/or mentorship. Overall, the drastic downward trend in total female AI/AN doctoral degree recipients in 1999 to 2002 may be related to these factors.

Survey of Mentorship

The purpose of the survey was to provide quantifiable data on mentorship and mentoring available for AI/AN women doctoral degree recipients. The population studied included individuals who have received research doctoral degrees such as Ph.D. and Ed.D. and is not a degree to practice a profession such as Psy.D., D.Min., Pharm.D., M.D., O.D, etc.. This survey provided insight to the recent decrease in AI/AN women doctoral degree recipients. The numbers of doctoral degree recipients have been decreasing, which may have an impact on available mentors for younger AI/AN women who are seeking a higher education. Overall, the AI/AN female doctoral degree group experienced the most drastic decreases in total recipients, -26.9 percent from 1999 to 2000 (NORC, 2004). The AI/AN survey was designed to investigate sources of support for AI/AN women who are doctoral degree recipients. Hamilton recognizes

that "added to the poverty the sheer loneliness of doctoral education … minorities can find themselves bereft of both peers and mentors" (2001, p.37).

Methodology for Survey on Mentorship

The data for this survey was collected using survey forms emailed to and returned by AI/AN women doctoral degree recipients. Doctoral degree recipients were contacted through the American Educational Research Association, Indigenous Peoples of the Americas, Special Interest Group (AERA, IPA, SIG), American Anthropological Association (AAA), and other interest groups from January 28th to 31st, 2005. AERA and AAA were both contacted for access to additional resource lists. A list of names and email addresses from College programs were collected and contacted confidentially by email from January 29th to February 8th, 2005. A request to survey candidates was made for additional names and email addresses of other AI/AN women doctoral degree recipients, which employed snowball sampling. The purpose of the survey was explained within the email content. Each qualified contact was emailed a consent form and survey to be returned by email. Each survey candidate was requested to read the consent letter, respond by email and indicate interest in completing survey. The survey was included below the consent letter at the same time.

The survey had closed-ended questions to ascertain (A) undergraduate and graduate schoolwork; (B) mentorship during doctoral degree studies; and (C) personal and family background, for survey questionnaire see Appendix 2. There are twenty-three (23) questions and the principle investigator followed up with questions that were missing answers on the survey, only three questions were missed by three different respondents, with a request sent by email.

However, the participants did not have to respond to each question. After surveys were returned the AI/AN doctoral degree recipient was assigned a pseudonym to provide confidentiality. All identifying information was removed from the returned survey and copied into a word document with the assigned pseudonym as the file name. Once the surveys were verified with a confirmation letter the emails were erased.

Answers of each survey question were analyzed using SPSS version 12.0. The analysis of the AI/AN women doctoral degree recipients focused on their mentorship experience during enrolment in their doctoral degree program. The answers were summarized and related to mentorship, experience, education, personal and family backgrounds. Potential issues not anticipated in the purpose of this study were noted with suggestions for future research.

Furthermore, summary of the information provided was sensitive to the AI/AN minority population. There was an avoidance of generalization or stereotyping of the data collected to be reflective of this protected population.

The surveys were sent out from January 28th to February 8th, 2005 to a total of 1,383 email contacts. Each contact received a follow reminder of the February 28th, 2005 deadline. All follow up emails were made from February 6th to 21st, 2005.

Sample

Participants were recruited by sending an invite by email within the United States to several agencies that are affiliated with AI/AN women doctoral degree recipients. Email contacts were made through the Internet, and each contact received a survey package, which included an introductory letter, consent form, and a survey questionnaire. The survey was

approved and placed on the website for AERA, IPA, SIG, and the AAA. Furthermore, the survey package was distributed to AAA members through their list service. A search for "AI/AN women" was performed on the Internet, which yielded the following six agencies: American Association of University Professors, American Indian and Alaskan Native Network Information Systems, Native American Professors, Native Net Work, National Women Students Association, and the University of Maryland, Baltimore County, Women's Studies Online Resources. Each agency was sent a survey package through email from February 1st to 8th, 2005.

Tribal Colleges were targeted as potential employers of AI/AN women with a doctoral degree. The first Tribal Colleges started in 1968 by the Navajo Nation (Focus on Tribal Colleges, 2000). All Tribal Colleges are located on reservations, mainly tribally chartered and locally managed (Focus on Tribal Colleges, 2000). The survey package was also sent out January 29th, 2005, to each tribal college's faculty and/or staff that had a contact email address posted on the school's website (309 total emails sent). The list of 22 American Indian tribal college were (Yahoo, 2004):

Bay Mills Community College
The Camas Institute
The Chief Dull Knife College
The College of the Menominee Nation
The D-Q University
The Diné College
Fond du Lac Tribal & Community College
Fort Belknap College
Fort Peck Community College
Haskell Indian Nations University
The Institute for American Indian Arts
Lac Courte Oreilles Ojibwa Community College
Leech Lake Tribal College
Little Big Horn College
Nebraska Indian Community College

Oglala Lakota College
Salish Kootenai College
Southwestern Indian Polytechnic Institute
Stone Child College
Turtle Mountain Community College
The United Tribes Technical College

A week later, February 6th, 2005, follow up emails were sent to each contact with a reminder of the February 28th, 2005 deadline. The survey package was also sent to all Native American Studies programs within U.S. universities or colleges, faculty or staff, that had a contact email address posted on the school's website (212 total emails). A week later, a follow up email was sent out to each email contact. In addition, the survey was sent out to 812 contacts found on Women Studies program directories for faculty, affiliated faculty, or staff that had an email address posted on the school's website, and a follow up email was sent to each of these contacts a week later.

There was a total of 46 survey responses returned. The surveys responses were mainly from contacts made through College programs, such as, Native American Studies, Women Studies, and Tribal Colleges, six, nine, and four respondents replied respectively. The agencies AERA, IPA, SIG, and AAA, yielded four and five completed surveys respectively. The list service yielded AI/AN doctoral degree recipients from Native Network Information Systems, Native Professors, National Women Students Association and the University of Maryland, Baltimore County, Women's Studies Online Resources, four, three, two, four, respectively. There were five respondents who forwarded a survey from an original contact.

Overall, it was difficult to determine racial background, gender, and level of education with limited information on the Internet and by viewing names and email addresses. In total

there was 1,383 emails sent out with the survey package, four emails to list serves, and one posting of the survey. In total 46 completed surveys were returned.

Survey Data Collection

Completed surveys were received and collected over a one-month time span. Of the total 46 surveys received, 42 surveys were returned by email and four were returned by airmail.

CHAPTER FOUR

There are three parts provided here in the study's data analysis. The first part is an analysis of the populations of female doctoral degree recipients in comparison to female AI/AN doctoral recipient populations between 1992 to 2002. The second part is an exploration of the 1999 dip found in the AI/AN doctoral degree recipient population. The third part is the data analysis of the survey sent out to AI/AN doctoral degree recipients to explore the type of mentorship available during the attainment of a doctoral degree.

Description of Sample

To observe the year to year difference of doctoral degree recipients within each race the total number of recipients one year was subtracted from the following year (see Table 5). For example, the number of AI/AN female doctoral degree recipients in 1992 was 67 and in 1993 were 60. Therefore, seven fewer degrees were awarded in 1993 as compared to 1992. When total changes are viewed, the differences between years are more evident. Among the races, the AI/AN female doctoral degree recipients decreased more times over the ten-year time span than any other race (decreases in six of the ten years). The second most negative differences were found with the White female doctoral degree recipient population, which decreased four times between years. The Hispanic female doctoral degree recipient population had only decreased twice in the ten years. However, each race experienced at least one negative dip in total doctoral degree recipients.

Table 5

1992 to 2002 Annual Total Difference (Diff) and Percentage Difference (%) of Female Doctoral Degree Recipients

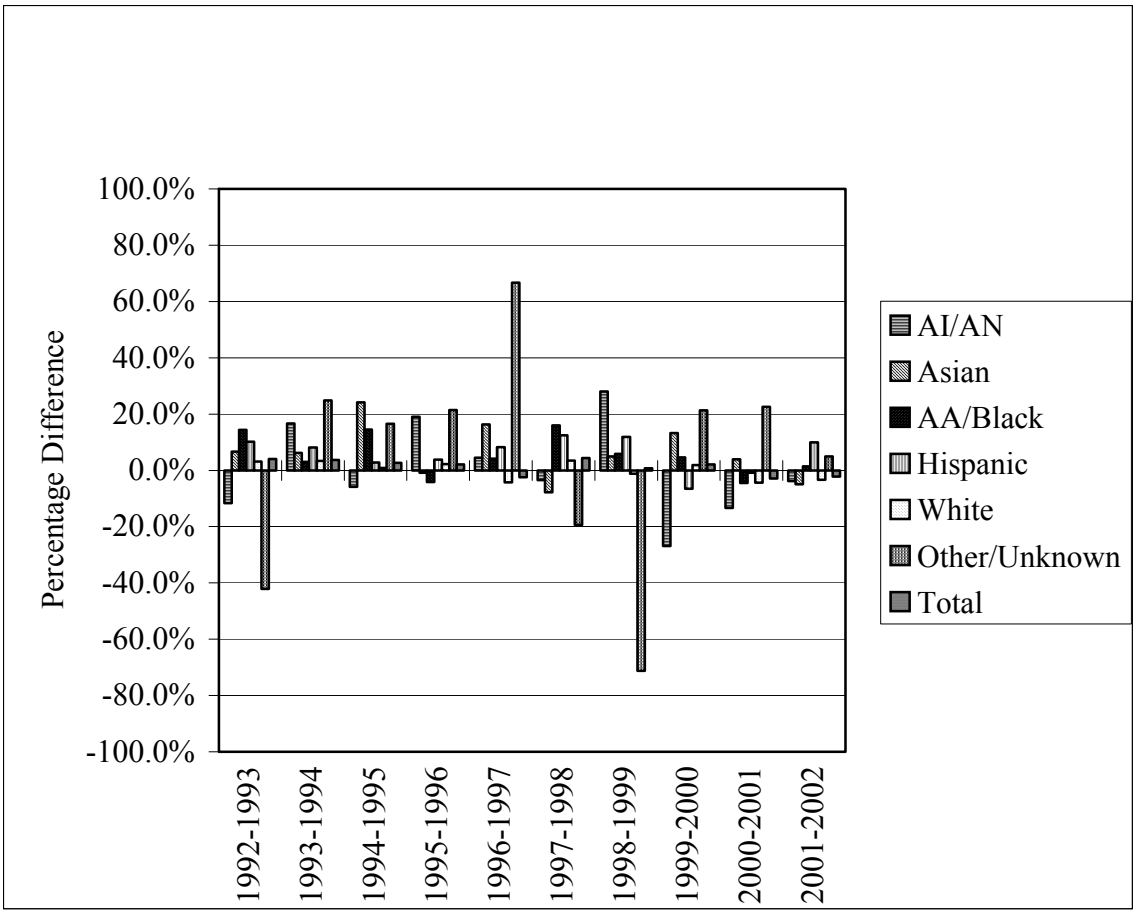
Year	AI/AN		Asian		AA/Black		Hispanic		White		Other/ Unknown		Total	
	Diff	%	Diff	%	Diff	%	Diff	%	Diff	%	Diff	%	Diff	%
1992–1993	-7	-11.7	22	6.6	96	14.4	42	10.2	319	3.1	-32	-42.1	477	4.0
1993–1994	12	16.7	22	6.2	21	3.0	36	8.1	366	3.4	25	24.8	457	3.7
1994–1995	-4	-5.9	113	24.2	117	14.5	13	2.8	103	0.9	20	16.5	338	2.7
1995–1996	16	19.0	-4	-0.9	-32	-4.1	18	3.8	249	2.2	33	21.4	279	2.2
1996–1997	4	4.5	90	16.3	33	4.1	43	8.3	-456	-4.3	308	66.7	-315	-2.5
1997–1998	-3	-3.5	-40	-7.8	154	16.0	74	12.5	383	3.5	-75	-19.4	574	4.3
1998–1999	33	28.0	27	5.0	59	5.8	80	11.9	-136	-1.2	-161	-71.2	99	0.7
1999–2000	-25	-26.9	83	13.3	49	4.6	-41	-6.5	212	1.9	61	21.3	282	2.1
2000–2001	-11	-13.4	25	3.9	-46	-4.5	-5	-0.8	-469	-4.4	84	22.6	-388	-2.9
2001–2002	-3	-3.8	-31	-5.0	15	1.4	69	9.9	-346	-3.4	19	4.9	-282	-2.2

Source: Hoffer, Sederstrom, et al. (2003)

From 1999 to 2002, the AI/AN female doctoral degree recipient population declined. The differences in total AI/AN women doctoral degree recipients from 1999 to 2000 were a decrease of 25 women (-26.9 percent), from 2000 to 2001; a decrease of 11 women (-13.4 percent), and from 2001 to 2002, there was a decrease of three women (- 3.8 percent). The AI/AN decrease in female doctoral degree recipients was a greater in total percentage than the total decrease of 41 Hispanic female doctoral degree recipients (-6.5 percent) in the same time period (see Table 5). Comparing the total percentage differences within the total number of female doctoral degree recipients is important to monitor the impact of changes. From 1999 to 2000, the AI/AN female total doctoral degree recipient population decreased 26.9 percent; from

2000 to 2001, the total decreased 13.4 percent, and from 2001 to 2002, the total number decreased 3.8 percent. The greatest decrease experienced by any other race that was not AI/AN was the "Other /Unknown" female doctoral degree population from 1998 to 1999 with a decrease of 71.2%, from a total of 387 to 226. These groups are individuals who did not include a race or indicated multiple races. There could be individuals in the "Other/Unknown" category then that could be any race "in combination" with another race such as AI/AN, French, and Hispanic. Therefore, the "Other/Unknown" category cannot be used to describe one specific race, however, it still represents female doctoral degree recipients.

Figure 2 depicts the 1992 to 2002 annual total percentage differences of female doctoral degree recipients for each race from year to year.



Source: Hoffer, Sederstrom, et al., (2003)

Figure 2. Annual total percentage difference of female doctoral degree recipients by race

The bar graph was used to provide a visual on the number of incidences where the AI/AN women doctoral degree population's differences were negative in comparison to the other races. It can observed that the majority of differences for the other races year by year were positive and above zero percent in the figure.

Data Analysis

The original research question was to evaluate if there are different trends in the total number of AI/AN women receiving doctoral degrees compared to trends in other races of women from 1992 to 2002 (SED). To assess the different trends a statistical analysis was performed between AI/AN and each race for the time span from 1992 to 2002, and then for each one-year period for the groups that indicated significance.

The 1992 to 2002 SED data was analyzed using Chi square tests to determine if the proportions of AI/AN women doctoral degree recipients differed when compared to AA/Black, Asian, Hispanic, White, and Other/Unknown women doctoral degree recipients. In the two-way contingency table analysis, the variables were race (5 levels, AA/Black, Asian, Hispanic, White, and Other/Unknown) and year (11 levels, 1992 through 2002).

To decrease the chance of a Type I error, the Bonferroni method was applied resulting in a more conservative alpha level (0.05/5 = 0.01) (Green & Salkind, 2003).

The Pearson Chi square for AI/AN total female doctoral degree and Asian total female doctoral degree recipients cross-tabulated by years 1992 to 2002 was significant. Pearson χ^2 (10, N= 6,316) = 29.908, p = 0.003, which is statistically significant.

The Pearson Chi-square for AI/AN total female doctoral degree and African American/Black total female doctoral degree recipients cross-tabulated by years 1992 to 2002. Pearson χ^2 (10, N= 10,323) = 18.139, p = 0.053, and is not statistically significant.

The Pearson Chi-square for AI/AN total female doctoral degree and Hispanic total female doctoral degree recipients cross-tabulated by years 1992 to 2002. Pearson χ^2 (10, N= 6,802) = 14.834, p = 0.138, and is not statistically significant.

The Pearson Chi-square for AI/AN total female doctoral degree and White total female doctoral degree recipients cross-tabulated by years 1992 to 2002. Pearson χ^2 (10, N= 118,660) = 25.665, p = 0.004, is statistically significant.

The Pearson Chi-square for AI/AN total female doctoral degree and Other/Unknown total female doctoral degree recipients cross-tabulated by years 1992 to 2002. Pearson χ^2 (10, N= 3,579) = 174.035, p = 0.000, is statistically significant.

Therefore, the Asian, White, and Other/Unknown women doctoral degree recipients were found to be statistically significant when cross-tabulated by years. To evaluate differences between the consecutive years a follow-up pair wise comparison was conducted, using 2x2 contingency tables to evaluate differences between total number of AI/AN female doctoral degree recipients year to year and total number of other significant groups, Asian, White, and Other/Unknown, from year to year. The follow-up tests indicated statistical significance between AI/AN and other/unknown races (see Table 6).

Table 6

The Annual Total Difference of AI/AN Female Doctoral Degree Recipients and Asian, White, and Other/Unknown Differences, between years 1992 to 2002,

Year	Asian	White	Other/ Unknown
	p	*p*	*p*
1992–1993	0.357	0.427	0.299
1993–1994	0.536	0.399	0.659
1994–1995	0.067	0.694	0.271
1995–1996	0.210	0.248	0.883
1996–1997	0.427	0.563	0.000*
1997–1998	0.805	0.646	0.393
1998–1999	0.074	0.017	0.000*
1999–2000	0.011	0.064	0.004*
2000–2001	0.306	0.586	0.025
2001–2002	0.944	0.979	0.615

*statistical significance with $p \leq 0.01$.

Statistical significance was found between three time spans, 1996 to 1997 ($p < 0.001$), 1998 to 1999 ($p < 0.001$), and 1999 to 2000 ($p < 0.005$). The Other/Unknown category is not a distinct classification therefore cannot offer insight to a specific race of women. Furthermore, the pattern of change for the Other/Unknown category is erratic. The Other/Unknown category total difference for female doctoral degree recipients from 1996 to 1997 was an increase of 308 (+ 66.7 percent), and in 1998 to 1999 decrease of 161 (-71.2 percent). These extreme differences were not seen in any other category and the race classifications did not change in the SED, therefore, the changes in totals are not understood.

The phi coefficient Φ is a measure of association and a function of the Pearson chi-square statistics, χ^2, and sample size, *N*. The phi ranges in value from –1 to +1, a value close to 1 indicates a strong relationship, and a value close to zero is a very weak relationship (Green & Salkind, 2003). The 2x2 contingency tables for total AI/AN and total Other/Unknown female doctoral degree recipients, from 1996 to 1997, $\Phi = \sqrt{36.242/788} = 0.21$. The phi coefficient of 0.21 is between a small and medium effect. For the AI/AN and Other/Unknown 1998 to 1999, $\Phi = \sqrt{28.267/816} = 0.19$, and is a weak relationship. For the AI/AN and Other/Unknown 1999 to 2000, $\Phi = \sqrt{8.446/724} = 0.11$, and is a very weak relationship. Therefore, from year to year in the 2x2 contingency tables from 1992 to 2002 there are a very weak to medium relationships between AI/AN and Other/unknown for total number of doctoral degree recipients.

Survey of Mentorship Data Analysis

The Survey of Mentorship for American Indian / Alaskan Native Women Doctoral Degree Recipients provides descriptive information by observing frequencies in the responses by qualified participants. There were 46 (*N*) survey respondents who identified as AI/AN women with a doctoral degree (alone or in combination with one or more races). The qualified survey respondents completed all survey questions with three missing pieces of data for answers not given for percentage of blood quantum. One respondent refused to answer the questions but indicated she has tribal enrolment; a second respondent indicated she has tribal enrolment and did not like the blood quantum classification, and a third respondent wrote “unknown”, therefore $N = 43$ for this question. For all remaining questions there was no missing data and $N = 46$.

The AI/AN blood quantum mean was 45 percent, the median was 50 percent, and the mode was 50 percent. The standard error mean was 4.6 percent, and the standard deviation was 29.8 percent. The minimum percent given was three percent and the maximum percent was 100 percent AI/AN blood quantum. Twenty-two AI/AN female doctoral degree respondents indicated that they were 50 percent or more, and six of the 22 women indicated that they were 100 percent blood quantum, or other words were AI/AN "alone". Therefore, the majority of AI/AN survey respondents were "in combination" with another race.

The AI/AN female doctoral degree survey respondent's year the degree was granted ranged from 1970 to 2005. The mode that the doctoral degree was granted was year 2004 (n = 6). Overall, there were 37 survey respondents (80 percent) who received their doctoral degree from 1994 to 2005, and 18 respondents (39 percent) who received their doctoral degree 2002 or after. All other nine survey respondents (20 percent) received their doctoral degree between 1970 and 1989, and no survey respondents graduated from 1990 to 1993. Thus, the majority of survey respondent's doctoral degrees were granted in the last decade.

The most common named department of the university that supervised doctoral studies for the survey respondents was the Education department, with a frequency of 15 reported (33 percent). Five respondents named Social Sciences as the department that supervised their doctoral studies. Anthropology and History were each named by four different survey respondents as the department that supervised their doctoral studies. Psychology, Interdisciplinary studies, and English were each named by three respondents as the department that supervised their doctoral studies. Language and Religious studies were each named by two survey respondents as the department that supervised the survey respondent's doctoral studies.

Communication, Human Services, Oceanography, Library and Information were each named by one survey respondent as the department that supervised their doctoral studies. The Education Department was the trend for the most common department for field of study.

A master's degree was a prerequisite for admission to the survey respondent's doctoral program for 29 (63 percent) of the 46 survey respondents. The year graduate school was entered in any program or capacity ranged from 1962 to 2001, but there were no survey respondents who entered graduate school from 1963 to 1968. The highest number of graduate school entries was in 1980 ($n = 6$), all other years had four or less AI/AN survey respondent entries. After undergraduate degree the survey, respondents had 6.67 years as the mean, 5.5 years as the median, and one year as the mode for years used to take courses or prepare for exams for their doctoral degree. The broad range of years that were used to take courses or prepare for exams was from zero to 28 years. After coursework and exams, the rounded number of years used to work on their dissertation (non-course related preparation or research, writing, and defense) had a mean of 3.1 years, median and mode of two years. The minimum rounded off number of years to work on dissertation was zero years to a maximum of 15 years. Some of the ranges of years were excessive which could indicate the need to work while in graduate school or lack of academic sources of support.

Less than one third of the AI/AN female doctoral students who earned college credit from a community or two-year college. There were only four AI/AN female doctoral degree survey respondents who earned college credit from an AI/AN community or two-year college. Hence, the majority of AI/AN survey respondents attended only four-year IHEs and did not attend a tribal community college before committing to graduate studies. The relationship to whether the

students were more or less prepared to continue to graduate studies due to their initial enrollment in a four-year program versus a two-year program, or if AI/AN students who qualified for enrollment in four-year IHEs programs are more prepared to further their education to graduate school is not known. The AI/AN students who were granted enrollment into 4-year IHEs might have been better prepared for college and had higher standardized test scores for college entry. As noted by Hunter and Bartee (2003) standardized test scores are used as a large component of a student's educational achievement and as a measurement of a student's success or predictable achievement.

Table 7

AI/AN Doctoral Degree Recipient Education Background Questions with "Yes" Answer

	Yes	Percent
Did you earn college credit from a community or two-year college?	14	30
Did you earn college credit from AI/AN community or two-year college?	4	9
Are you earning, or have you earned a professional medical or dental degree in addition to a doctorate?	0	0

In addition, none of the survey respondents earned a professional medical or dental degree (e.g. MD, DDS).

The following table 8 indicates the sources of social, emotional, academic, and professional support during graduate school for the surveyed AI/AN female doctoral degree

recipients. The survey respondents were not limited by the number of choices they could make for sources of support.

Table 8

Sources of Social, Emotional, Academic, and Professional Support

Source	Frequency	Percent
Committee Chair	42	91
Committee Member	35	76
Graduate Faculty	21	46
Graduate Colleagues	32	70
Other Faculty	17	37
Spouse Partner	27	59
Family	34	74
Employer	14	30
Friend	39	85
Tribal Group	16	35
Elder	19	41
Mentor	18	39
Other Specify	8	17

Committee Chair, friend, and Committee members were the top three most frequent choices made for sources of support. The primary source for support selected by the survey respondents to have provided the most social, emotional, academic, and professional support during the AI/AN female doctoral degree recipient academic pursuits was the Committee Chair (see Table 9).

Nine respondents selected the spouse/partner category, and seven respondents chose family as a primary source of support. However, it is important to note that not all survey respondents had a spouse or partner during their doctoral degree program.

The categories: committee members, graduate faculty, other faculty, employer, elder, were not listed once as a primary source of support. Of the primary sources of support selected, 24 were women (52 percent), and / or 16 (35 percent) were American Indian or Alaskan Native. Therefore, in addition the surveys were reviewed to identify the respondents who listed the Committee Chair as a primary source and it was observed that only eight were women and three were AI/AN, and only two were AI/AN women. It is important to recognize the value the Committee Chair as a source of support, moreover, it is also notable that less than half were women and only a few were AI/AN women.

The secondary source that provided the most social, emotional, academic, and professional support in the female doctoral degree pursuits was both the Committee Chair and their family, which were selected nine and eight times respectively. Selected seven times as a secondary source of support for AI/AN doctoral degree students during academic pursuits was the Committee member category. There were 26 (57 percent) secondary sources of support that were a woman, and/or 21 (46 percent) who were AI/AN selected. The more that family was chosen as a source of support the more AI/AN and women were represented.

The third main source who provided the most social, emotional, academic, and professional support in AI/AN doctoral degree recipients academic pursuits was their family which was selected nine times, and then an Elder who was selected seven times. Of the third main source of support 29 were women (63 percent), and/or 22 (48 percent) were AI/AN of the 46 third main source of support selected. The third main source of support had the highest representation of women and AI/AN this is due to the fewer individuals being represented by the

academic community and an increase in representatives as sources of support from their community.

The Committee Chair was selected the majority of the choices however it can be observed in Table 9 that there are a low number who are AI/AN, and are both AI/AN and a woman.

Table 9

Committee Chair Sources of Support from Total Selections

	Selected	Percent	Women	Percent	AI/AN	Percent	AI/AN Women	Percent
Primary Source	17	37%	8	47%	3	18%	2	12%
Secondary Source	9	20%	5	56%	3	33%	3	33%
Third Main Source	6	13%	1	17%	2	33%	0	0%
Total in Top Three	32	23%	14	44%	8	25%	5	16%

Of the 42 Committee Chairs who were selected by AI/AN women doctoral degree recipients, 32 Committee Chairs were in the top three sources of support. Of the 32 Committee Chairs selected, less than half were women, a quarter were AI/AN, and only five were an AI/AN woman. The student within a doctoral degree program is dependent on the Committee Chair for academic support. The doctoral degree student must have a productive working relationship with their Committee Chair to produce and pass their dissertation. The Committee Chair is also the individual with the greatest knowledge of the doctoral degree students research therefore it

apparent that they would further be an effective source of support. In addition, the Committee Chair has also experienced the challenges of completing a doctoral degree program and can relate to the doctoral degree student's academic and career goals and objectives more than an individual who has not been through the doctoral degree program. This highlights the importance of AI/AN women Committee Chairs for they are able to provide viable academic sources of support due to their ability to relate to the struggles of AI/AN women to achieve a higher level of education and the knowledge and experience in how to succeed in IHEs.

One respondent who had no women in her primary, secondary or third main source of support would have preferred a female source of support. Seven of the eleven of the respondents who had no AI/AN in their top three sources of support would have preferred AI/AN sources of support.

In total 24 (52 percent) AI/AN female doctoral degree recipients were married, and five (11 percent) were living in a marriage-like relationship of the total number of respondents. Therefore, 29 (63 percent) AI/AN doctoral degree recipients were with a spouse or partner at the time of receipt of doctoral degree. Twelve respondents were divorced, two were never married, two were separated, and one respondent was widowed. Therefore, 17 respondents were without a spouse or partner at receipt of doctoral degree and this would have affected their choices of sources of support for the top three selections.

Concerning AI/AN female doctoral degree parents, eight sets of parents were deceased, five were widowed, and two were widowers by time their daughter graduated with her doctoral degree. However, a total 13 sets of parents were still married and alive for the survey respondents. Seven sets of AI/AN female doctoral degree recipient's parents were divorced, and

one set of parents was separated. Therefore, the majority of survey respondent's parents who had a partner who was still alive were still married.

The structure for 25 (54 percent) of the AI/AN female doctoral degree recipient's family household for the majority of her years through age 18 was mainly living with both parents. Twelve (26 percent) of the AI/AN doctoral degree recipients lived with single family, mother or female guardian head of household, seven (15 percent) women lived with extended family, and two women (4 percent) lived in foster care. None of the AI/AN doctoral degree recipients lived in a father or male guardian head of a single-family household, or lived in an orphanage.

The highest educational attainment of the AI/AN female doctoral degree recipient's mother ranged from less than high / secondary school graduate to Master's degree (e.g., MA, MS, MBA, MSW, etc.). None of the AI/AN doctoral degree recipient's mothers had attained a professional degree or a doctoral degree. The majority of mothers, 28 (61 percent), were only a high school graduate or less. Ten mothers had some college, four with a Bachelor's degree, and four with a Master's degree of the AI/AN female doctoral degree recipients. Therefore, 18 (39 percent) of the mothers of the AI/AN female doctoral degree recipients had attended college.

The highest educational attainment of the AI/AN female doctoral degree recipient's fathers ranged from less than high / secondary school graduate to Doctoral degree. Same as the mothers, 28 (61 percent) of the AI/AN female doctoral degree recipient's fathers had only a high school education or less. There were nine fathers who had some college, three with a Bachelor's degree, one with a Master's degree, one with a professional degree, and one with a Doctoral degree of the AI/AN female doctoral degree respondents. Therefore, 15 (33 percent) of the

fathers of the AI/AN female doctoral degree recipients had attended a college. Three fathers level of education was “not known”, or “not applicable”.

There seems to be a greater involvement of the survey respondent’s mothers in the AI/AN doctoral degree recipients personal background for there was more knowledge of the mother’s education than the father’s education, and there were only mother or female guardian heads of the household for the respondent whose family structure was a single-family home.

The years of birth for the AI/AN doctoral degree recipients ranged from 1936 to 1971, this provides a broad 35-year time span between respondents. Therefore, the female AI/AN doctoral degree recipients who responded to this survey in 2004 will range in age from 34 to 69 years old. The mode of four was for the birth year 1948 (57 years of age in 2005) for the AI/AN survey respondents. There were 30 (65 percent) baby boomers born between 1946 and 1964 that responded to this survey. There were eight (17 percent) survey respondents born between 1936 and 1945, and eight (17 percent) survey respondents who were born after 1964. Therefore, the majority of the survey respondents are baby boomers or older.

Of the total 46 survey respondents, all but one of the AI/AN doctoral degree recipients is a citizen of the U.S., one survey respondent is a dual citizen with U.S. and Canadian citizenship, and another respondent is a U.S. permanent resident and a Canadian citizen. The education experience of the Canadian citizens is dependent on their age of when their education started in the U.S. Many tribal groups extend across the U.S. and Canadian border may share similar traditions and cultures, however, the educational systems may be different at each level. Similar to the diversity found between the states in the U.S.

Less than half of the AI/AN women doctoral degree recipients who responded had lived on an Indian Reservation at some time in their life, and most of the respondents practice AI/AN traditional culture (see Table 10).

Table 10

AI/AN Background Questions with "Yes" Answer

	Yes	Percent
Have you lived on an Indian Reservation?	21	46
Do you practice AI/AN traditional culture?	40	87

Therefore, even though most of the AI/AN doctoral degree recipients who responded to this survey never lived on a reservation they still have an interest in AI/AN traditional culture.

The survey provided a descriptive analysis of frequencies of responses of the AI/AN female doctoral degree recipient population that is seldom studied. However, there was a low sample size and this was a diverse group of AI/AN female doctoral degree recipient group.

CHAPTER FIVE

The following is a discussion of the findings from the assessment of the quantitative analysis of the total number of AI/AN women doctoral degree recipients by year, and compared to other races of women in the United States. The observations highlighted a significant dip of AI/AN women doctoral degree recipients in 1999 and after. The discussion further addresses some of the factors that may have contributed to the success of AI/AN women who completed a doctoral degree program through survey responses to close-ended questions. The survey questionnaire provided information on undergraduate and graduate schoolwork; mentorship during doctoral degree studies; and personal and family background.

Discussion on Women Doctoral Degree Recipients by Year and Race

The Chi square tests indicate that there were very weak to medium effect between female AI/AN doctoral degree recipient and female Other/Unknown doctoral degree recipients. Furthermore, the Chi square tests indicate that there was no effect between female AI/AN doctoral degree recipients and female Asian, or White doctoral degree recipients when differences were evaluated one year at a time from 1992 to 2002. The total or percentage difference of AI/AN female doctoral degree recipients from 1992 to 2002, or from year to year was not significantly different from female AA/B or Hispanic doctoral degree recipients. There was a significant difference when total female AI/AN doctoral degree recipients were evaluated against females who were Asian, White, or Other/Unknown. It could be speculated that the AI/AN, Hispanic, and AA/B population may not be significantly different due to shared social

issues of discrimination related to skin color. It is important to note that each group, except for Other/Unknown, experienced a dip in total number of doctoral degree recipients after 1999. However, the AI/AN female doctoral degree group experienced the most drastic decreases in total recipients. The AI/AN female doctoral degree group decreased 26.9 percent from 1999 to 2000, 13.4 percent in from 2000 to 2001, and 3.8 percent from 2001 to 2002 (NORC, 2004). Overall, there is an evident trend that the total number of AI/AN women receiving doctoral degrees compared to trends in other races of women from 1999 to 2002 is decreasing year to year.

The 1999 Dip

This trend from 1999 to 2002 for the female AI/AN doctoral degree recipient population from 118 to 79 (NORC, 2004) was a drastic dip that may mark other economic factors worth exploring. The female doctoral degree recipients by race was explored and it was noted that there were also decreases in other races besides the AI/AN female population, yet not as drastic. The SED 2002 noted that there was only 39,955 research doctoral degrees awarded in the twelve-month period ending June 30, 2002, this is the lowest total number since 1993 (NORC, 2004). There was also a total decrease from 41,356 in 2000, to 40,790 in 2001 (NORC, 2004). The all-time high was in 1998 with a 42,652 doctoral degrees being awarded (NORC, 2004). In 2001, the 2.0 percent decrease represents the 4.5 percent drop in male doctoral degree recipients, but a 1.1 percent increase for females (NORC, 2004).

Therefore, it is interesting to observe whether the downward trends may have been caused by social or economic stress, which is defined by unemployment rates. In contrast to the

1999 dip in total doctoral degree students U.S. unemployment rates were also dipped from 1999 and 2000 (see Table 6). It is noteworthy, to observe the U.S. Bureau of Labor Statistics, unemployment rates were at there lowest in 1999, within the 1992 to 2002 time span. However, this suggests that more people were employed during this time period and able to generate financial resources. Viewing the U.S. Bureau of Labor Statistics its noteworthy to observe that the unemployment rates for from 1992 to 2002, and that in 1999 the unemployment rates were also at their lowest.

Table 11

U.S. Unemployment Rates 1992 to 2002

Year	January unemployment
1992	7.3
1993	7.3
1994	6.6
1995	5.6
1996	5.6
1997	5.3
1998	4.6
1999	4.3
2000	4.0
2001	4.2
2002	5.6
1992	7.3

Source: U.S. Bureau of Labor Statistics (2004)

It was speculated that due to possible low unemployment rates more students might have discontinued enrollment in a doctoral degree program so that they could develop financial

resources to continue schooling. However, it is evident now that the 1999 lower number of doctoral degree recipients was not due to low unemployment rates.

Furthermore, Syverson, vice president of research at the Council of Graduate Schools, states that they "saw an increase in graduate-school enrollment from 1999 to 2000, which usually coincides with a larger number of people pursuing doctorates…. Enrollment numbers usually increase as the unemployment rate rises" (as in Farrell, 2001, p. 10). However, AI/AN had the highest rate of unemployment at 7.6 compared to Whites at 2.9 (Census, 2000). Therefore, the AI/AN population was suffering from high unemployment rates however there were no drastic changes in funding for AI/AN students moreover, federal funding was increased in 1996 to $75 million.

Shimmer (1998) offers a reasonable answer in his paper "Why is the U.S. unemployment rate so much lower". Shimmer postulates that it is due to the high number of baby boomers who were born between 1946 and 1964 which caused an increase in unemployment rates from 1957 to 1979, and a decrease in the lowest rates in 1997 as the baby boomers are aging (1998). At the peak of the baby boom, 12 percent of women between the ages of 15 to 46 years old gave birth, compared to eight percent in 1940, and after eight percent in 1975 (Shimmer, 1998). By the time the baby boomers entered the labor market there was a sharp increase in unemployed workers without the sharp increase in vacancies. This would also explain the two periods of rapid growth of doctoral degree recipients in 1960 through to 1980 (NORC, 2004). In 1961, it was the first year that the doctoral degree recipients surpassed 10,000, and by 1971 the average annual growth rate was nearly 12 percent (NORC, 2004). By 1981 the total number of doctoral degrees remained moderately stable at 31,000 per year. Since 1998 the number of doctoral degrees have

steadily declined, and the unemployment rates also lowered. This could indicate that there was an increase in vacancies due to the older baby boomers (born circa 1946) retiring. It would be interesting to further investigate the relationship of the aging U.S. population, the unemployment rate, and level of education attainment. It would be assumed that as the U.S. population ages into their 60s and 70s the baby boomers who have secured a faculty position may request part-time work and cause continuing lack of full-time positions, and an increase in part-time positions to balance the course load. The aging of baby boomers is not a factor in addressing the downward trend of total number of doctoral degree recipients in 1999 however it may explain the low unemployment rate for the total population and increase in part-time faculty positions.

Jones notes that a trend seems to be that part-time lower paid adjunct positions are growing at a faster rate than the full-time positions (2003). This trend seems to be starting in 4-year institutions as some faculty members may prefer part-time work (Jones, 2003). This would make sense due to the analogy of aging baby boomers that are nearing retirement. However, this may not be desirable for new doctoral degree recipients due to lower salaries in part-time employment, and low potential for upward mobility (Jones, 2003). This may detour students who are looking at career options after completing an undergraduate degree to pursue a professional degree that would take less time and have greater potential for upward mobility and full-time pay. Huisman, de Wert, and Bartelse (2002) also concur, "in the last decade the supply of Ph.D. students exceeded the demand for university faculty positions. Many graduates looked beyond academe for alternative careers"(p. 141).

Education still remains the most popular field for AA/B doctorate recipients, however, "analysts worry that jobs with better pay and less stress are luring these grads away from

education research" (Collison, 2000, p. 32). Collison notes that job offers to new AA/B doctoral degree recipients do not pay well enough to cover student loan payments, and/or are part-time adjunct faculty positions.

Huisman et al. (2002) suggest that to increase the attractiveness of entering doctoral degree programs that alternative forms of doctoral preparation be developed, opportunities for young scholars to develop research programs be created, a solution found to cut through the hierarchical ladder, equal opportunities for women be promoted, and improve working conditions and facilities be improved (2002). Also, noted by Collison that opportunities need to be provided to minorities who specialize in a given area in order to perform research concerning minority populations (2000).

Hamilton (2001) notes that the time it is taking to get a doctoral degree is taking longer, especially in comparison to professional degrees. As reported by SED, the median time it takes to complete a doctorate following the receipt of a baccalaureate degree is up to 10.2 years in 2002, up from 8.6 years in 1974 (NORC, 2004). Being in college for this length of time decreases the amount of time for earning and causes great financial stress, especially for minorities. In SED 2000, Male and Female AA/B, AI/AN, and Hispanic are the more than likely to complete doctoral programs relying on their own resources, 47.6 percent, 44.7 percent, and 44.1 percent respectively (NORC, 2004). In SED 2000, Male and Female doctoral degree recipients that are AA/B, AI/AN, and Hispanic also are the most likely to complete school with debt in excess of $30,000, 30.0 percent, 23.5 percent, and 23.2 percent respectively, compared to White at 16.6 percent and Asian at 11.1 percent (NORC, 2004). Hamilton recognizes that

"added to the poverty the sheer loneliness of doctoral education … minorities can find themselves bereft of both peers and mentors" (2001, p.37).

The decrease in total doctoral degrees obtained could be related to a decrease in faculty positions on the tenure track to hire part-time adjunct faculty, time required to complete doctorate is taking longer versus completing a professional degree, and part-time positions do not pay as well and are not as attractive. The pursuit of faculty positions does not seem as attractive as it may have been decades ago, and even though more minorities such as AA/B and AI/AN are being accepted into colleges they may be ill prepared to progress to doctoral programs due to financial resources and mentorship. The drastic downward trend in total female AI/AN doctoral degree recipients in 1999 to 2002 can be related to these factors, as well as other negative factors that effect overall education attainment for this group.

Still, individuals who have a doctoral degree have significantly higher earnings than those who have lower levels of education (Jones, 2003). "Doctoral degree holders in 2001 had an unemployment rate of slightly more than one percent and median annual earnings of $66,000--considerably better than the 3.7-percent unemployment rate and $30,300 median earnings of the population aged 25 and older" (Jones, 2003, p. 22).

Survey of Mentorship Discussion

The survey was designed to collect background information from AI/AN women who are doctoral degree recipients and to inquire about sources of support during the completion of their doctoral program. AI/AN race was determined by asking percentage of blood quantum. However, three AI/AN female doctoral degree recipients responded with comments that the

category was “resented”, “offensive”, and that “it’s racism and classism that prevents Indians from achieving educational goals”. One survey respondent exclaimed:

> I would not use of the term "blood quantum" in relation to non-tribal designations. For tribes, I think of “blood quantum” as an imperfect and antiquated term that nonetheless tries to get at how much one is likely to be related o the tribe in question. I view it as a term that tries to get at one’s probable embeddedness or affiliation with a tribe than as a term that says something about one’s actual biological make-up. (Although I know others see it as connoting actual biology.) On the other hand, I don’t use it in relation to other ethnic/racial designations that don’t have an equivalent of tribal enrolment that tries to gauge an individual’s relationship with the tribal entity. For racial designations such as “White” or “Black”, for example, I would not use the terminology of “blood quantum” as I cannot overlook in those cases the essentialist connotations of the term. While my father is White, I view whiteness as socially constructed.

Consequently, two respondents refused to answer this question and each noted that she has tribal enrolment. In addition, one respondent stated that her blood quantum was “unknown”. There were 28 (61 percent) of the 41 reported AI/AN doctoral degree respondents that are 50 percent or more AI/AN blood quantum. It is recommended in the future that tribal enrollment be used and a list of federally recognized tribes be available.

A high 80 percent of the AI/AN survey respondents received their doctoral degree from 1994 to 2005, and 39 percent received their doctoral degree 2002 or after. Therefore, the survey respondent’s recollection of the sources of support may be more accurate than the other 20 percent of AI/AN women that received their doctoral degree between 1970 and 1989 due to the length of time for recall of information regarding the doctoral degree program is less.

The departments that supervised doctoral studies of the survey respondents varied greatly and reflected 15 different departments. The Education department was the most reported department, which is similar to what is reflected with the 2002 SED report that indicates the field

of Education has the highest number of AI/AN graduates. The departments that supervised the doctoral degree could influence the availability of AI/AN sources of support. As one respondent indicated, "I am not in a field where there are many Indians at all and so I didn't come into this expecting faculty members who could give me support in that way". In addition, by having AI/AN doctoral students in fields with low AI/AN enrollment they can be eventually sources of support or mentors for upcoming AI/AN doctoral degree students. The variety of fields chosen indicate that AI/AN students are choosing fields that may not be related to traditional AI/AN fields, such as, Education or Social Sciences. A doctoral degree recipient stated, "Hopefully other students who are natives or part-bloods can see me as an example of how to stay native without going into a field that's native specific".

The majority (66 percent) of AI/AN female doctoral degree recipients who answered the survey required a prerequisite for admission to their doctoral program. The year of entry into any graduate school greatly ranged from 1962 to 2001. It is important to note there was only one survey respondent who entered graduate school in 1962 and the next survey respondent did not enter graduate school until 1969. The experience of the women who entered graduate school in 1960s to 1970s would have experienced evolving changes to the education system for women and minorities. As discussed in the prior Background and Significance section, the doctoral students who entered graduate school may have experienced accumulated changes that were implemented in reaction to the 1928 Meriam report, the 1948 American Indians report by the Bureau of Indian Affairs to improve access to higher education, and eventually the 1970s U.S. Department of the Interior: BIA education programs. Furthermore, in 1975, the Indian Self-Determination and Education Act was implemented to authorize tribes to operate their own

education programs, and then in 1975 the Educational Amendments Act granted powers to Indian School boards to hire local staff and teachers. This could be the reason why the highest number of graduate school entries was in 1980.

The rounded number of years used to take courses or prepare for exams for their doctoral degree was extremely varied from zero to 28 years, with seven years as the average. Then there was an average of 3.2 years after coursework and exams to work on their dissertation. Furthermore, the rounded off number of years to work on dissertation was also extremely varied from zero to 15 years.

There was a low to moderate percentage (27 percent) of survey respondents that earned college credit from a community or two-year college. Also, there was a very low percent (9 percent) of survey respondents who earned college credit from an AI/AN community or two-year college. However, it is important to not that AI/AN or tribal colleges only started in 1968 by the Navajo Nation.

None of the survey respondents represents graduates who have earned a professional medical or dental degree (e.g. MD, DDS), in addition to the doctorate. Therefore, each respondent would have been only included in the SED report at time of graduation.

The Committee Chair, friend, and Committee members were the top three most frequent choices made for sources of social, emotional, academic, and professional support. The three main primary sources for support for the AI/AN doctoral degree recipients were their Committee chair, spouse / partner, or family. Committee chairs may have been the most selected source of support for they are the most involved in the dissertation and have experienced the demands of pursuing a doctorate. The advanced dissertation topics and the demands of the doctoral program

may be a challenge for family and friends to offer academic or professional support. One respondent shared that her family were quite ambivalent to her doctoral degree pursuits:

> My family does NOT support me and they will certainly brag when I graduate, but they don't give me much in the way of voiced encouragement or ever ask questions about how my studies are going. This situation is okay with me. I figure they don't really understand what I'm up to so understandably it's hard for them to be all that interested. In a vague way they are proud of me for getting a Ph.D.

Another survey respondent exclaimed that her family was the deciding factor for her to go to college:

> My background as an adoptee who was adopted by a.... family had a direct impact on my educational experience. My adoptive mother was the high school librarian and very dedicated to the idea of college. It was always assumed that I would attend a four-year college. It was really my decision to attend graduate school after working....I would have to have quit after my master's degree if it hadn't been for the head of the Dept.....who arranged for me to qualify for an assistanceship .... which paid my tuition and provided a (very) small stipend.

This same adopted AI/AN respondent found through her college studies provided information about her AI/AN ancestry and was able to find other AI/AN family members. This AI/AN doctoral degree recipients experience supports the NIH (2000) study that found that parents who had high expectations for their children achieved higher levels of education than other children, and was associated with an increase on a child's reading test score.

Therefore, beyond academic or professional support the AI/AN doctoral degree recipient still needs or may desire emotional and social support. Traditional sources of support in the AI/AN community are Elders. Elders were selected the second most in the third main source of support, after family. However, it is important to note that as mentioned in the literature review that there is an elimination of tribal values from school curriculums and students do not show

enough respect for elders, one another, or their surroundings (Stokes, 1997). Therefore, the AI/AN traditional value of respecting the Elder as a significant source of support may be diminishing.

Of the varied 46 primary and secondary sources selected over half of the supporters were women (52 and 57 percent respectively), and with the choices in the third main source of support 63 percent were women. It was indicated by one respondent who had no women in her three main sources of support that she would have preferred a female source of support. However, it is important to note that all, except one, AI/AN female doctoral degree recipients had chosen or available a female as primary, secondary, or third main source of support.

With the primary source of support over one third were AI/AN for the survey respondents. This is a strong representation of AI/AN as a primary source of support, in contrast to percentages of AI/AN individuals in the U.S. total population. The AI/AN representation as sources of support increases from 35 percent as primary, to 46 percent as secondary source of support, and to almost half at 48 percent of third main source of support. An AI/AN survey respondent stated, "…without the Native Scholars on my doctoral committee, my program, dignity, and mental health would have been destroyed. They constantly protected me." Three quarters of the AI/AN doctoral degree recipients had an AI/AN source of support while completing their program. The majority of respondents (64 percent) who did not have an AI/AN source of support in their primary, secondary or third main source of support would have preferred an AI/AN source of support.

However, Committee Chairs were selected in the top three sources of support of the 32 Committee Chairs 18 were men, and 24 were not AI/AN. In total, for the 46 AI/AN women doctoral degree recipients, only five (16 percent) of the 32 Committee Chairs selected for one of the top three main sources of support were AI/AN women during the completion of their doctoral degree. Therefore, even though the representation in the total sources of support for women appears to be greater when the most frequently selected primary source of support for the Committee Chair is separated the sources of support who are women is 5 percent lower, and 17 percent lower for AI/AN representation than the total representation for all choices made. Consequently, Committee Chairs were identified, as the most frequent primary source of support however there are fewer women and AI/AN individuals in this category.

Outside of AI/AN committee and faculty in the doctoral program, other AI/AN graduate sources of support were utilized, as noted by one respondent:

> A group of female, Native, graduate students met once a week for a brown bag lunch (no pun intended) to talk about any issues, concerns and solutions any of us might have. This group was truly a life-saver for me….Also, participation in this group gave me hope that I could complete my program. I perceived these women as being similar to me, so I felt I could achieve what they achieved.

Furthermore, besides direct sources of support others may have inspired doctoral degree students during their academic pursuits. As a women AI/AN doctoral degree recipient exclaimed, "… that while my Mother was not enthusiastic or supportive about my getting a doctorate, she was ultimately my inspiration for pursuing higher education".

A source of support listed under "other" was specified as "My own children and their teachers". Offering the category "children" as a choice for support may have yielded interesting

observations. Furthermore, observing the number of children that AI/AN doctoral degree recipients had during their program would have been of interest.

In addition, to "other" sources of support, as mentioned by Bickham-Chavers (2003) with AA/B doctoral degree students found that "spiritual beliefs" were a source of social support, that no AI/AN women survey respondents listed church or religious group. However, a high percentage of the respondents practice AI/AN traditional culture but whether that it is artwork, crafts, language, cooking, spiritual beliefs, etc., it was not specific.

After achieving her doctoral degree, the following was shared on sources of support by an AI/AN survey respondent:

> I found the support I received while pursuing my doctorate to be a deciding factor in my pursuit of an advanced degree. However, I have also found that once I started teaching, the support was nearly non-existent on the professional side of things. In my tenure-track position at …, I wasn't given a mentor until my 2nd year, one who did nothing…. When I found out I was pregnant with a baby who had birth defects, I asked for a year off the tenure clock and was told no, I should take a year's unpaid Family Leave (paying my own $700 monthly insurance premium)….After voluntarily reassigning to an instructorship, I was not renewed, the cause given, the budget mess and restructuring of our school. As you know, with no union at that time and no Board of Regents to intervene on anyone's behalf, I was expected to disappear quietly. Now, 10 months unemployed, my daughter and I are homeless. Never forget, they'll be there to support you as a student, hoping to gain something from "helping" a double-minority; when you become the competition professionally, they're no help at all.

This personal account shows that even after high education success was attained that social risks still occur. Furthermore, the sources of academic, professional, emotional, or social support should be ongoing.

Concerning sources of support from spouse or partner at the time of receipt of doctoral degree a moderate to high percentage (63 percent) of AI/AN doctoral degree recipients were with

a spouse or partner at receipt of their doctoral degree. The remaining 37 percent of AI/AN doctoral students could not report their spouse or partner as a source of support for they did not have one, assuming that he or she would have been supportive.

For the 46 female AI/AN respondents a total 13 pairs of parents were still married and alive at time of receipt of doctoral degree. Seven pairs of AI/AN female doctoral degree recipient's parents were divorced, and one set of parents was separated. Other AI/AN female doctoral degree parents were both deceased (8 total), father had died (5 total), or mother had died (2 total) by time their daughter graduated with her doctoral degree.

The structure of the family household for more than half (54 percent) the AI/AN female doctoral degree recipient for the majority of her years through age 18 was mainly living with both parents. Just over a quarter of the AI/AN doctoral degree recipients lived with a mother or female guardian head of single-family household and none lived with a father or male guardian head of a single-family household. This supports the trend stated by Clark (2002) that AI/AN women head a high percentage of the single-family households. Seven of the 46 women lived with an extended family, two women lived in foster homes, but none lived in an orphanage for the majority of her life.

The highest educational attainment of the AI/AN female doctoral degree recipient's mothers ranged from less than high / secondary school graduate to Master's degree, and fathers ranged from less than high / secondary school graduate to Doctor's degree. The majority of mothers and fathers education was only a high school graduate or less (61 percent).

The AI/AN female doctoral degree recipient's mothers who had attended college was 39 percent, where four mothers received a Bachelor's degree and three mothers received a Master's degree. Less than the mothers, only 30 percent of the fathers of the AI/AN female doctoral degree recipients had attended a college, where three fathers received a Bachelor's degree, one father a Master's degree, one father with a professional degree, and one father with a Doctoral degree. It is important to note that three fathers of the AI/AN female doctoral degree recipient's were "not known" or "not applicable", consequently, their level of education was unknown.

A respondent highlights that her parents were both teachers and that it had an impact on her achievement in school as she shares her story:

> I am the eldest daughter and eldest child in my immediate family. I have been especially designated as the "little mother" given my place in the family. Leadership has come to me from the time of my childhood right up to this day…. My parents were both teachers…. my parents were constantly reading and studying in our home, and we were encouraged to be good students and excel, both in academics and athletics.

It is important to assess the parent's level of education and support for it may have had a positive impact, like the above respondent, or may have had a negative affect. However, it is important to note that the AI/AN doctoral degree parents did not have the same accessibility to education has their children did. Whether their parents were born from in the early 1900's to the late 1960's, the education system was not as accessible for women or minorities, and worse for a woman who was a minority. The parent's range of year of birth was estimated due to the ranges of birth years of AI/AN doctoral degree recipients who responded to the survey was from 1936 to 1971.

There is 35 years in ranges of birth year for the AI/AN doctoral degree recipients survey respondents ranged (1936-1971). The age range is 34 to 69 years old for the survey female AI/AN doctoral degree recipients. The most common birth year was 1948 for four survey respondents were who would each be 57 years old in 2005. There is a good representation of 30 baby boomers (65 percent), eight pre- baby boomers (18 percent) born between 1936 and 1945, and eight post-baby boomers (17 percent) were born after 1964 that responded to the survey. The lower percent of pos-baby boomers could be due to the time it takes to complete a doctorate, and the that it was difficult to reach AI/AN doctoral degree recipients to distribute the survey.

All of the AI/AN doctoral degree recipients were born in the U.S., and are U.S. citizens except for one who is a Canadian Citizen and a U.S. Permanent resident, and another who is a dual citizen with Canada and the U.S. The U.S. permanent resident's and the dual Citizen's survey information was maintained in the study for they both attended a U.S. University and reside in the U.S.

Less than half (45.7 percent) of the AI/AN women doctoral degree respondents had never lived on an Indian Reservation at some time in their life. Nevertheless, the majority (87 percent) of the respondents practice AI/AN traditional culture. The options for responses to the questions were limited to "Yes" or "No". Therefore, as commented by one of the survey respondents, "Practicing my Navajo culture has many dimensions and the single question and the yes answer may not be sufficient."

The survey offered a few simple observations of AI/AN female doctoral degree recipients. It tempting to review the average responses and summate it to what the average

AI/AN doctoral degree recipient characteristics are like. However, that would not be just to use the combined data to construct greater stereotyping of the AI/AN population.

The most frequent and most common primary source of support selected who provided the most social, emotional, academic, and professional support during the AI/AN female doctoral degree recipient academic pursuits was the Committee Chair. Another important observation was that there were moderate percentages of women and low to moderate AI/AN for sources of support. In relation to total U.S. population of women (50.9 percent) and total male or female AI/AN population (0.7 percent) the AI/AN survey respondents were able to find and utilize three main sources of support who on average who were women (57.3 percent) or AI/AN (42.3 percent). The access and utilization of woman and AI/AN during the attainment of their doctoral degree is higher than the general population representation of these groups. It can be concluded that women and AI/AN as sources of support were sought after and desired for they are not conveniently available within the total population or the college environment. In addition, due to the doctoral degree completion of the AI/AN women survey respondents these sources of support were valuable and a component of the education success. A survey respondent wrote "…there is so much more to all of our experiences than can be gathered in a survey…"

Moreover, this was a low sample size and a diverse AI/AN group of women therefore this information cannot be generalized. The information could be used to highlight factors involved in the education success of AI/AN women to the doctoral degree level, to develop future research in this area, and to make recommendations.

CONCLUSION

Despite the fact that AI/AN female population has access to higher education and doctoral degree programs the number of women in 2000 that received a doctoral degree was low compared to the AI/AN 2000 total population in the U.S. Some of the factors that contribute to the success of AI/AN women in the doctoral degree program are sources of academic, professional, emotional and social support. The possible factors that inhibit AI/AN women to attain a doctoral degree are diverse learning styles, high-risk behaviors, low economic status, low enrollment predictions, lower total education achievement, or lower graduate level higher education.

As discussed by Clarke, AI/AN students are plagued with the inability to get along with students, teachers, a general dislike of school, and school suspension (2002). AI/AN students suffer from feelings of boredom, feelings of stress, and may live in communities or long-term social and economic stress (Clarke, 2002). In comparison to National Averages AI/AN individuals have high rates of alcohol and drug abuse, violence, domestic abuse, child neglect, substandard housing, lack of job opportunities, and suicide (Clarke, 2002). Therefore, it is not surprising to note that the total AI/AN women who achieve a doctoral degree in the U.S. are 0.00003 percent (SED 2000, Census 2000). The AI/AN women have the lowest representation of any race within the doctoral degree population. Furthermore, there are some common high-risk behaviors and challenges with other visible minority races of women, such as substandard housing, lack of job opportunities, or substance abuse.

Therefore, the suggestion by Sammons (1995) that the gap is closing for minority pupils there is still strong evidence that at the doctoral degree level that the gap is widening and there is still an underachievement by minorities.

Therefore, possible factors that inhibit education success of AI/AN women could also be addressed to other under represented races in the doctoral degree recipient population. The AI/AN total percentage doctoral degree representation in the SED 2000 is less than half (42 percent) of the total percentage representation in the 2000 U.S. population. In addition, the Census 2000 AA/B and Hispanic total percentage female population is also underrepresented in the total percentage of the SED 2000 doctoral degree recipient population, 55 percent and 66 percent of representation respectively. Both the Asian and White populations have higher percentages represented in the doctoral degree recipient total population than in the total U.S. population. The low percentages of doctoral degree recipients for the AI/AN, AA/B, and Hispanic populations illustrate that there is still barriers to achieve a high education such as a doctoral degree for these groups.

The total numbers of AI/AN doctoral degree recipients are decreasing year by year. It is discouraging to observe these low numbers as well as compare the totals to other races. The total numbers have been decreasing from 1999 with 93 AI/AN women with doctorates to 79 women with doctorate by 2002. It is evident that a total of 79 female AI/AN doctoral degree recipients depict this group as unsuccessful in comparison to its own group over the past ten years, and when compared to other races in the same time periods. However, it is valuable to focus on the fact that the total sum of AI/AN women who have their doctorate is increasing year by year.

It is also positive to note that AI/AN women have survived segregation on reservations, may still have a tribal connection, and practice traditions. It is further valuable that the AI/AN race of women is represented in the doctoral degree community. However, it is evident that the AI/AN populations are still struggling in achieving a higher education, specifically to the doctoral degree level. AI/AN women have lower levels of educational attainment and lower incomes than the total general population of women in the U.S.

Furthermore, there are constant challenges in identifying this population due to interpretation of visible identity, percentage of blood quantum, tribal enrollment registries, situational self-identification, or being a multi-minority. Tribal enrollment may not be sufficient for some individuals who do not know their ancestry due to adoption or foster care. As well, the names and number of recognized tribes changes depending on source of list. Furthermore, there are some AI/AN individuals who are not "alone" AI/AN and do not look like they are AI/AN. Thus the AI/AN women may look like the other race they may be "in combination" with. This study will not attempt to define what makes an individual AI/AN. It could be argued that a White person who was born on an Indian reservation and practices AI/AN culture has greater rights to tribal enrollment that an AI/AN individual with 100 percent blood quantum who was raised off the reservation and practices no AI/AN traditional culture. Therefore, the White individual who practices the AI/AN culture and lives on the land should have greater rights to tribal enrollment. It could also be argued that similar to AA/B individuals who are visibly AA/B are AA/B, thus AI/AN individuals who are visibly a colored minority are more AI/AN. A drop of AI/AN blood and outward appearance is both uncivilized methods to classify an individual's race status. It is advised that in the future tribal enrollment be used for indicating that an

individual is AI/AN. The challenge is too ensure that individuals who have an AI/AN family background can gain AI/AN status.

Recommendations

The survey offered descriptive information on a sample of 46 AI/AN female doctoral degree recipients and recommendations could be made from this study. It is recommended that in future research that tribal enrollment be used to determine AI/AN status. It would be important to provide a list of Federally recognized tribes to make choices from to provide consistency.

The survey also explored the availability of sources of support for AI/AN women who completed doctoral degree programs. Due to the challenges for this population and the decreasing number of AI/AN women attaining a doctoral degree it is recommended that the availability of Committee Chairs who are women and AI/AN be increased for AI/AN women who are completing their doctoral degrees. Consequently, there should be a greater increase of AI/AN women faculty positions.

Future Research

Firstly, this study provides quantitative data and is a numerical description of the status of AI/AN in the U.S. and cannot provide information on the environment, or experience of students in post secondary education. Therefore, it is suggested that personal interviews of AI/AN women with doctoral degrees should be performed to gain insight in this matter. The quantitative data supports the findings that the achievement of a doctoral degree for AI/AN

women is low in total in comparison to other women with doctoral degrees from different races. This research could also be performed on the AI/AN male doctoral degree recipient population. AI/AN women could be compared to AI/AN men receiving doctoral degrees, and faculty staff position to explore trends. Furthermore, it would also be interesting to perform additional research to assess the progress of the total AI/AN population in attaining a higher education on different levels.

There is also a high percentage of AI/AN women who are in the field of Education, however, it would of interest to investigate the availability of scholarships and bursaries available for AI/AN students outside of the traditional fields that are not considered to be "native specific". Investigating the financial support in fields with low AI/AN student enrollment could enhance awareness and accessibility to non-traditional studies.

Overall, there is sparse research on the AI/AN population, women or men, and education achievement at the doctoral level. It is valuable to gain knowledge on the trends of these populations so those challenges that are affecting attainment of higher education are addressed and limited.

Furthermore, as the total U.S. population is living longer, and it would be interesting to perform research to investigate the relationship of the aging population, the unemployment rate, and level of education attainment. The aging population could have an affect on the number of full-time faculty positions available in the near future.

In contrast, it would of value to compare the indigenous populations of the U.S. AI/AN and the Canadian First Nations, Inuit and Métis people. Some of the U.S. and Canadian indigenous populations share a border, cultures, traditions, and ancestors. It would be

informative to see the impact of the different country's education systems has on the level of education achievement of AI/AN women.

Future research should be performed to investigate the common factors that inhibit female AI/AN, AA/B, and Hispanic, in attaining a doctoral degree. Furthermore, a study to investigate if there is a cumulative effect of the inhibiting factors of education achievement.

Faculty Mentorship

On a positive note, more AI/AN mentors are making there way to being mentors within education programs. Due to higher education achievement, 3,407 AI/AN were employed full or part-time as faculty in an Institute of Higher Education (IHE) (1993). Nevertheless, it is only 0.4 percent of total faculty in IHE according to IPEDS (1993). The median full-time faculty salaries for AI/AN was also lower at 90.5 percent of the total faculty salaries (IPEDS, 1993). The 1993 IPEDS median salary AI/AN women faculty salary is 76.8 percent lower than the total salary for men.

In 2000, the percentage of AI/AN doctoral degree recipients used more personal funds, owed more money, and had more students with a debt of $30,000 than the total population, but was second to the AA/B population (NORC, 2004). A higher percentage AI/AN doctoral recipients have larger debts on completion of their program, and if a graduate chooses to be employed in a faculty position AI/AN are paid less, especially if a woman, and have difficulties finding full-time faculty employment (NORC, 2004). Faculty positions for minorities can be valuable in creating a diverse population that could have an impact on the education environment, curriculum, instruction, and students as mentors for other minorities.

Regarding support for attaining a higher education, the good news is in 1996 federal funding was increased to $75 million, and additional financial assistance is also available from state, private foundations and organizations, and tribal organizations. However, in 1996 if there were approximately 135,000 AI/AN students in IHE (127,400 in 1994) assistance would be roughly $556 each. This is not considerable assistance when considering that on average AI/AN students pay $3,100 for those attending full-time, on a full-year basis according to NPSAS: 93 above living expenses (Pavel *et al.*, 1998).

Research and Statistics: Impact on Curriculum

Research and statistics are used to predict and evaluate educational achievement for specific groups, which may cause stereotypes. Research, statistics and theories are the driving force for the majority of school curriculum at all levels, which stresses the importance of including diversity to reflect the student population. Educational systems are evolving over time and are changing according to developing educational philosophies, theories, and trends. Stereotypes are characteristics applied to a group that are generalized to describe each member. If there is a prediction that there is a low percentage of educational success for specific minority groups the belief system of the teacher and student are affected. Therefore, it is important for educational profiles of minorities to be recorded who have achieved educational success to negate the negative influences used to predict educational achievement.

As indicated by Yeaky, Johnston, and Adkinson, the existence of research on women and minorities in education leadership is meager (1986). Therefore it is important for educational profiles to be recorded in minorities who have achieved educational success in order to negate

the negative biases, and to identify positive attributes that can be used to predict educational achievement.

Unfortunately, the study supported popular understandings that AI/AN students have great challenges to achieve a higher education. This stresses the importance of providing AI/AN women mentors to model that education success is attainable. An increase in AI/AN women doctoral degree recipients is essential in providing mentors, leaders, and faculty positions that reflect the diverse U.S. culture.

However, despite these challenges it was indicated by the 46 AI/AN survey respondents that women and individuals who are AI/AN are being utilized as sources of social, emotional, academic, and professional support in during graduate school.

APPENDIX ONE

SURVEY OF EARNED DOCTORATES QUESTIONNAIRE

Please print your name in full:

First Name	Middle Name	Last Name	Suffix (e.g., Jr.)

Cross reference: Birth name or former name legally changed

Name of Doctoral Institution	City or Branch

Type of Doctoral Degree (e.g., Ph.D., Ed.D., D.B.A.)	Date Degree Granted (mm/yyyy)

Survey of Earned Doctorates

July 1, 2004, to June 30, 2005

Conducted by
The National Opinion Research Center at the University of Chicago
for
The National Science Foundation
The National Institutes of Health
The U.S. Department of Education
The National Endowment for the Humanities
The U.S. Department of Agriculture
The National Aeronautics and Space Administration

This information is solicited under the authority of the National Science Foundation Act of 1950, as amended. ALL INFORMATION YOU PROVIDE WILL BE TREATED AS CONFIDENTIAL and used only for research or statistical purposes by your doctoral institution, the survey sponsors, their contractors, and collaborating researchers for the purpose of analyzing data, preparing scientific reports and articles, and selecting samples for a limited number of carefully defined follow-up studies. Your Social Security Number is also solicited under the NSF Act of 1950, as amended; provision of it is voluntary. It will be kept confidential. It is used for quality control, to assure that we identify the correct persons, especially when data are used for statistical purposes in Federal program evaluation. Any information publicly released (such as statistical summaries) will be in a form that does not personally identify you. Your response is voluntary and failure to provide some or all of the requested information will not in any way adversely affect you.

The time needed to complete this form varies according to individual circumstances, but the average time is estimated to be 19 minutes. If you have comments regarding this time estimate, you may write to the National Science Foundation, 4201 Wilson Blvd., Arlington, VA 22230, Attention: NSF Reports Clearance Officer. A Federal agency may not conduct or sponsor a collection of information unless it displays a currently valid OMB control number.

OMB No.: 3145-0019
Approval Expires 04/30/2006

INSTRUCTIONS

Thank you for taking the time to complete this questionnaire. Directions are provided for each question.

- **If you have not already done so, please print your name on the front cover.**
- **Please print all responses; you may use either a pen or pencil.**
- **When answering questions that require marking a box, please use an "X."**

PART A - Education

A1. What is the title of your dissertation?

☐ *Please mark (X) this box if the title below refers to a performance, project report, or a musical or literary composition required instead of a dissertation.*

Title

A2. Please write the name of the primary field of your dissertation research.

Name of Field

Using the list on page 7, choose the code that best describes the primary field of your dissertation research.

Number of Field ☐☐☐

If your dissertation research was interdisciplinary, list the name and number of your secondary field.

Name of Field

Number of Field ☐☐☐

If there were more than two fields, please continue on the back cover of the questionnaire (p. 8).

A3. Please name the department (or interdisciplinary committee, center, institute, etc.) of the university that supervised your doctoral studies.

Department/Committee/Center/Institute/Program

A4. If you received full or partial tuition remission (waiver) for your doctoral studies, was it:

0 ☐ I did not receive any tuition remission
1 ☐ for less than 1/3 of tuition
2 ☐ between 1/3 and 2/3 of tuition
3 ☐ more than 2/3 of tuition but less than full
4 ☐ full tuition remission

A5. Which of the following were sources of financial support during graduate school?

Mark ALL that apply

a. ☐ Fellowship, scholarship
b. ☐ Grant, stipend
c. ☐ Teaching assistantship
d. ☐ Research assistantship
e. ☐ Other assistantship
f. ☐ Traineeship
g. ☐ Internship, clinical residency
h. ☐ Loans (from any source)
i. ☐ Personal savings
j. ☐ Personal earnings during graduate school (other than sources listed above)
k. ☐ Spouse's, partner's, or family earnings or savings
l. ☐ Employer reimbursement/assistance
m. ☐ Foreign (non-U.S.) support
n. ☐ Other - Specify

A6. Which TWO sources listed in A5 provided the most support?

Enter letters of primary and secondary sources

1 ☐ Primary source of support
2 ☐ Secondary source of support
☐ *Mark (X) if no secondary source*

A7. When you receive your doctoral degree, how much money will you owe that is directly related to your undergraduate and graduate education?

Mark (X) one in each column

	Undergraduate	Graduate
0	☐ None	☐ None
1	☐ $10,000 or less	☐ $10,000 or less
2	☐ $10,001 - $20,000	☐ $10,001 - $20,000
3	☐ $20,001 - $30,000	☐ $20,001 - $30,000
4	☐ $30,001 - $40,000	☐ $30,001 - $40,000
5	☐ $40,001 - $50,000	☐ $40,001 - $50,000
6	☐ $50,001 or more	☐ $50,001 or more

A8. **The next few questions ask about the degrees you have received. Starting with this doctorate degree, please provide the following information for the most recent master's degree and your first bachelor's degree.**

	This research doctorate degree	Most recent master's degree (e.g. MS, MA, MBA) or equivalent	First bachelor's degree (e.g. BA, BS, AB) or equivalent
a. Have you received a degree of this type?	Yes [X] No [ ]	Yes [ ] No [ ]	Yes [ ] No [ ]
b. Month/year that you started your degree	Month [ ][ ] Year [ ][ ][ ][ ]	Month [ ][ ] Year [ ][ ][ ][ ]	Month [ ][ ] Year [ ][ ][ ][ ]
c. Month/year of degree award	Month [ ][ ] Year [ ][ ][ ][ ]	Month [ ][ ] Year [ ][ ][ ][ ]	Month [ ][ ] Year [ ][ ][ ][ ]
d. Primary field of study			
e. Field number from list on p. 7	[ ][ ][ ]	[ ][ ][ ]	[ ][ ][ ]
f. Institution name			
g. Branch or city			
h. State or province			
i. Country	USA		

A9. **Excluding those above, have you attained any additional postsecondary degrees?** Yes [ ] No [ ]

If yes, please list the additional degree(s), granting institution(s), and years.

Degree Type _____
Degree Field _____
Year Granted _____
Institution _____
Branch or City _____
State or Country _____

Degree Type _____
Degree Field _____
Year Granted _____
Institution _____
Branch or City _____
State or Country _____

If necessary, please continue this list on the back cover (p.8).

A10. **Was a master's degree a prerequisite for admission to your doctoral program?** Yes [ ] No [ ]

A11. **In what year did you first enter graduate school in any program or capacity, in any university?** Year [ ][ ][ ][ ]

A12. **How many years were you taking courses or preparing for exams for this doctoral degree (including a master's degree, if that was a part of your doctoral program)?** Years [ ][ ]

Round to whole years

A13. **After coursework and exams, how many years did you work on your dissertation (non-course related preparation or research, writing, and defense)?** Years [ ][ ]

Round to whole years

A14. Did you earn college credit from a community or two-year college?

1 ☐ Yes
2 ☐ No

A15. Are you earning, or have you earned, a professional medical or dental degree (e.g. MD, DDS), in addition to the doctorate?

1 ☐ Yes
2 ☐ No

PART B - Postgraduation Plans

B1. In what country or state do you intend to live after graduation (within the next year)?

0 ☐ in U.S. → State

1 ☐ not in U.S. → Country

B2. Do you intend to take a "postdoc" position?
(A "postdoc" is a temporary position primarily for gaining additional education and training in research, usually awarded in academe, industry, or government.)

1 ☐ Yes
2 ☐ No

B3. What is the status of your postgraduate plans (in the next year)?
Mark (X) one

0 ☐ Returning to, or continuing in, predoctoral employment
1 ☐ Have signed contract or made definite commitment for other work or study
→ **GO TO B4**

2 ☐ Negotiating with one or more specific organizations
3 ☐ Seeking position but have no specific prospects
4 ☐ Do not plan to work or study
5 ☐ Other - Specify
→ **SKIP TO C1**

B4. What best describes your (within the next year) postgraduate plans?
Mark (X) one

FURTHER TRAINING OR STUDY

0 ☐ Postdoctoral fellowship
1 ☐ Postdoctoral research associateship
2 ☐ Traineeship
3 ☐ Intern, clinical residency
4 ☐ Other - Specify
→ **GO TO B5**

EMPLOYMENT

5 ☐ Employment (other than 0, 1, 2, 3, 4)
6 ☐ Military service
7 ☐ Other - Specify
→ **SKIP TO B6**

B5. What will be the main source of financial support for your postdoctoral study/research within the next year?
Mark (X) one

0 ☐ U.S. Government
1 ☐ Industry/Business
2 ☐ College or university
3 ☐ Private foundation
4 ☐ Nonprofit, other than private foundation or college
5 ☐ Other - Specify
6 ☐ Unknown

B6. For what type of employer will you be working or in training within the next year?
Mark (X) one

EDUCATION

a. ☐ U.S. 4-year college or university other than medical school
b. ☐ U.S. medical school (including university-affiliated hospital or medical center)
c. ☐ U.S. university-affiliated research institute
d. ☐ U.S. community college or technical institute
e. ☐ U.S. preschool, elementary, middle, secondary school or school system
f. ☐ Foreign educational institution

GOVERNMENT (other than education institution)

g. ☐ Foreign government
h. ☐ U.S. federal government
i. ☐ U.S. state government
j. ☐ U.S. local government

PRIVATE SECTOR (other than education institution)

k. ☐ Not for profit organization
l. ☐ Industry or business (for profit)

OTHER

m. ☐ Self-employed
n. ☐ Other - Specify

B7. Please name the organization and geographic location where you will work or study.

Name

State (if U.S.)

OR

Country (if not U.S.)

B8. What will be your primary and secondary work activities?

Mark (X) one in each column

	a. Primary	b. Secondary
Research and development	1 ☐	1 ☐
Teaching	2 ☐	2 ☐
Management or administration	3 ☐	3 ☐
Professional services to individuals	4 ☐	4 ☐
Other - Specify	5 ☐	5 ☐

☐ *Mark (X) if no secondary work activities.*

PART C - Background Information

C1. Are you -

1 ☐ Male
2 ☐ Female

C2. What is your marital status?

Mark (X) one

1 ☐ Married
2 ☐ Living in a marriage-like relationship
3 ☐ Widowed
4 ☐ Separated
5 ☐ Divorced
6 ☐ Never married

C3. Not including yourself or your spouse/partner, how many dependents do you have - that is, how many others receive at least one half of their financial support from you?

☐ *Mark (X) box if none*

	Number
5 years of age or younger	
6 to 18 years	
19 years or older	

C4. What is the highest educational attainment of your mother and father (or guardians)?

Mark (X) one for each parent

	a. Mother	b. Father
Less than high/secondary school graduate	1 ☐	1 ☐
High/secondary school graduate	2 ☐	2 ☐
Some college	3 ☐	3 ☐
Bachelor's degree	4 ☐	4 ☐
Master's degree (e.g., MA, MS, MBA, MSW, etc.)	5 ☐	5 ☐
Professional degree (e.g., JD, LLB, D.Min, MD, DDS, etc.)	6 ☐	6 ☐
Doctoral degree	7 ☐	7 ☐
Not applicable	8 ☐	8 ☐

C5. What is your place of birth?

State (if U.S.)

OR

Country (if not U.S.)

C6. What is your date of birth?

Month ☐☐ Day ☐☐ Year 1 9 ☐☐

C7. What is your citizenship status?

Mark (X) one

U.S. CITIZEN

0 ☐ Since birth
1 ☐ Naturalized

→ **SKIP TO C9**

NON-U.S. CITIZEN

2 ☐ With a Permanent U.S. Resident Visa ("Green Card")
3 ☐ With a Temporary U.S. Visa

→ **GO TO C8**

C8. (IF A NON-U.S. CITIZEN) Of which country are you a citizen?

(Specify country of present citizenship)

C9. In what state or country was the high school/secondary school that you last attended?

State (if U.S.)

OR

Country (if not U.S.)

C10. Are you a person with a disability?

1 ☐ Yes → **GO TO C11**

2 ☐ No → **SKIP TO C12**

C11. Which of the following categories describes your disability(ies)?

Mark (X) one or more

a. ☐ Blind/Visually Impaired

b. ☐ Deaf/Hard of Hearing

c. ☐ Physical/Orthopedic Disability

d. ☐ Learning/Cognitive Disability

e. ☐ Vocal/Speech Disability

f. ☐ Other - Specify

C12. Are you Hispanic (or Latino)?

1 ☐ Yes → **GO TO C13**

2 ☐ No → **SKIP TO C14**

C13. Which of the following best describes your Hispanic origin or descent?

Mark (X) one

1 ☐ Mexican or Chicano

2 ☐ Puerto Rican

3 ☐ Cuban

4 ☐ Other Hispanic - Specify

C14. What is your racial background? *Mark (X) one or more*

a. ☐ American Indian or Alaska Native

Specify tribal affiliation(s)

b. ☐ Native Hawaiian or other Pacific Islander

c. ☐ Asian

d. ☐ Black or African-American

e. ☐ White

C15. Please fill in your U.S. Social Security Number.

☐☐☐ - ☐☐ - ☐☐☐☐

C16. In case we need to clarify some of the information you have provided, please list an E-mail address (if applicable), and telephone number where you can be reached.

E-mail address

Daytime telephone

C17. Please provide your address and the name and address of a person who is likely to know where you can be reached.

Current Address

Street Address

City State Country Zip or Postal Code

Contact Person

First Name Last Name

Street Address

City State Country Zip or Postal Code

Phone Number (including area or country code)

E-mail Address

C18. Please sign and date.

Signature Date

The results of this survey will be published in a Summary Report; the Summary Reports on earlier surveys are available at http://www.norc.uchicago.edu/issues/docdata.htm

Please use the back cover to make any additional comments you may have about this survey.

Thank you for completing the questionnaire. Please return this questionnaire to your GRADUATE SCHOOL for forwarding to Survey of Earned Doctorates, NORC at the University of Chicago, 1 N. State Street, Floor 16, Chicago, IL 60602. If you have questions or concerns about the survey, you may contact us by e-mail at 4800-sed@norcmail.uchicago.edu or phone at 1-800-248-8649.

FIELD OF STUDY

INSTRUCTIONS: The following field listing is to be used in responding to items A2 and A8. Please choose the code that best describes the name of your field.

AGRICULTURAL SCIENCES/NATURAL RESOURCES
000 Agri. Economics
005 Agricultural Animal Breeding
010 Animal Nutrition
014 Poultry Science
019 Animal Sci., Other
020 Agronomy & Crop Science
025 Agric. & Hort. Plant Breeding
030 Plant Pathology/ Phytopathology
039 Plant Sciences, Other
043 Food Science
044 Food Science and Technology, Other
046 Soil Chemistry/ Microbiology
049 Soil Sciences, Other
050 Horticulture Science
055 Fishing and Fisheries Sciences/Mgt.
066 Forest Sciences and Biology
070 Forest/Resources Mgt.
072 Wood Science & Pulp/Paper Tech.
074 Natural Resources/ Conservation
079 Forestry & Related Science, Other
080 Wildlife/Range Management
081 Environmental Science
098 Agriculture, General
099 Agricultural Sci., Other

BIOLOGICAL/ BIOMEDICAL SCIENCES
100 Biochemistry (see 539)
103 Biomedical Sciences
105 Biophysics (see 565)
107 Biotechnology
110 Bacteriology
115 Plant Genetics
120 Plant Pathology/ Phytopathology
125 Plant Physiology
129 Botany/Plant Biology
130 Anatomy
133 Biometrics & Biostatistics
136 Cell/Cellular Biology and Histology
139 Ecology
142 Developmental Biology/Embryology
145 Endocrinology
148 Entomology
151 Immunology
154 Molecular Biology
157 Microbiology
160 Neuroscience
163 Nutrition Sciences
166 Parasitology
169 Toxicology
170 Genetics, Human & Animal
175 Pathology, Human & Animal
180 Pharmacology, Human & Animal
185 Physiology, Human & Animal
189 Zoology, Other
198 Biology/Biological Sciences, General
199 Biology/Biomed Sci, Other

HEALTH SCIENCES
200 Speech-Lang. Pathology & Audiology
210 Environmental Health
211 Environmental Toxicology
212 Health Systems/ Service Administration
215 Public Health
220 Epidemiology
222 Kinesiology/Exercise Sci
230 Nursing Science
240 Pharmacy
245 Rehabilitation/ Therapeutic Services
250 Veterinary Medicine
298 Health Sciences, General
299 Health Sciences, Other

ENGINEERING
300 Aerospace, Aeronautical & Astronautical
303 Agricultural
306 Bioengineering & Biomedical
309 Ceramic Sciences
312 Chemical
315 Civil
318 Communications
321 Computer
324 Electrical, Electronics and Communications
327 Engineering Mechanics
330 Engineering Physics
333 Engineering Science
336 Environmental Health Engineering
339 Industrial & Manufacturing
342 Materials Science
345 Mechanical
348 Metallurgical
351 Mining & Mineral
357 Nuclear
360 Ocean
363 Operations Research (See also 465, 930)
366 Petroleum
369 Polymer & Plastics
372 Systems
398 Engineering, General
399 Engineering, Other

COMPUTER & INFORMATION SCIENCES
400 Computer Science
410 Information Science & Systems
419 Computer & Information Science, Other

MATHEMATICS
420 Applied Mathematics
425 Algebra
430 Analysis & Functional Analysis
435 Geometry/Geom. Anal.
440 Logic
445 Number Theory
450 Statistics (See also 690)
455 Topology/Found.
460 Computing Theory & Practice
465 Operations Research (See also 363, 930)
498 Math/Stat, General
499 Math/Stat, Other

PHYSICAL SCIENCES
Astronomy
500 Astronomy
505 Astrophysics

Atmospheric Sci. & Meteorology
510 Atmospheric Chemistry and Climatology
512 Atmospheric Physics and Dynamics
514 Meteorology
518 Atmospheric Science/ Meteorology, General
519 Atmospheric Science/ Meteorology, Other

Chemistry
520 Analytical
522 Inorganic
526 Organic
528 Medicinal/ Pharmaceutical
530 Physical
532 Polymer
534 Theoretical
538 Chemistry, General
539 Chemistry, Other (See also 100)

Geological & Earth Sciences
540 Geology
542 Geochemistry
544 Geophysics & Seismology
546 Paleontology
548 Mineralogy & Petrology
550 Stratigraphy & Sedimentation
552 Geomorphology & Glacial Geology
558 Geological and Earth Sciences, General
559 Geological and Earth Sciences, Other

Physics
560 Acoustics
561 Atomic/Molec/Chem
564 Particle (Elem)
565 Biophysics (see 105)
568 Nuclear Physics
569 Optics/Phototonics
570 Plasma/Fusion
572 Polymer
574 Condensed Matter/Low Temp
576 Applied Physics
578 Physics, General
579 Physics, Other

Ocean/Marine Sciences
585 Hydrology & Water Resources
590 Oceanography, Chemical and Physical
595 Marine Sciences
599 Ocean/Marine, Other

PSYCHOLOGY
600 Clinical
603 Cognitive & Psycholinguistics
606 Comparative
609 Counseling
612 Developmental & Child
613 Human Devlpmt. & Family Studies
615 Experimental
618 Educational (See also 822)
620 Family Psychology
621 Industrial & Organizational (See also 935)
624 Personality
627 Physiological/ Psychobiology
633 Psychometrics and Quantitative Psychology
636 School (See also 825)
639 Social
648 Psychology, General
649 Psychology, Other

SOCIAL SCIENCES
650 Anthropology
652 Area Studies
658 Criminology
662 Demography/ Population Studies
666 Economics
668 Econometrics
670 Geography
674 International Relations/Affairs
678 Political Science & Government
682 Public Policy Analysis
686 Sociology
690 Statistics (See also 450)
694 Urban Affairs/Studies
698 Social Sciences, General
699 Social Sciences, Other

HUMANITIES
History
700 History, American
703 History, Asian
705 History, European
706 History, African
707 History, Latin American
710 History/Philosophy of Science & Technolog
718 History, General
719 History, Other

Letters
720 Classics
723 Comparative Literature
724 Folklore
729 Linguistics
732 Literature, American
733 Literature, English
734 English Language
736 Speech & Rhetorical Studies
738 Letters, General
739 Letters, Other

Foreign Languages & Literature
740 French
743 German
746 Italian
749 Spanish
752 Russian
755 Slavic (other than Russian)
758 Chinese
762 Japanese
768 Arabic
769 Other Languages & Literature

Other Humanities
770 American/U.S. Studies
773 Archeology
776 Art History/Criticism/ Conservation
780 Music
785 Philosophy
790 Religion/Religious Studies (See also 984)
795 Drama/Theater Arts
798 Humanities, General
799 Humanities, Other

EDUCATION
800 Curriculum & Instruction
805 Educ. Administration & Supervision
807 Educ. Leadership
810 Educ./Instructional Media Design
815 Educ. Statistics/ Research Methods
820 Educ. Assessment/ Testing/Measure
822 Educ. Psychology (See also 618)
825 School Psychology (See also 636)
830 Social/Philosophical Foundations of Educ.
835 Special Educ.
840 Counseling Educ./ Counseling & Guidanc
845 Higher Educ./ Evaluation & Research

Teacher Education
850 Pre-elementary/Early Childhood
852 Elementary
856 Secondary
858 Adult & Continuing

Teaching Fields
860 Agricultural Education
861 Art Education
862 Business Education
864 English Education
866 Foreign Languages Education
868 Health Education
870 Family & Consumer Sci./Home Economics
874 Math. Education
876 Music Education
878 Nursing Education
880 Physical Education & Coaching
882 Reading Education
884 Science Education
885 Social Science Education
887 Trade & Ind. Educ.
889 Teach Educ. & Prof Dev.

Other Education
898 Education, General
899 Education, Other

PROFESSIONAL FIELDS
Business Mgmt./Administrative Services
900 Accounting
905 Banking/Financial Support Services
910 Business Admin. & Management
915 Business/Managerial Economics
916 International Business/Trade/ Commerce
917 Mgmt. Information Systems/Business Data
920 Marketing Management & Research
921 Human Resources Development
930 Operations Research (See also 363, 465)
935 Organiz. Behavior (See also 621)
938 Business Mgmt./ Administration Serv., General
939 Business Mgmt./ Administration Serv., Other

Communications
940 Communications Research
947 Mass Communication/ Media Studies
957 Communication Theory
958 Communications, General
959 Communications, Other

Other Professional Fields
960 Architec. Environ. Design
964 Family/Consumer Sci./Human Sci., General
968 Law
972 Library Science
974 Parks/Sports/Rec./ Leisure/Fitness
976 Public Administration
980 Social Work
984 Theo./Religious Education (See also 790)
989 Prof. Fields, Other

Other Fields
999 Other Fields

To the Doctorate Recipient:

Congratulations on earning a doctoral degree! This is an important accomplishment for you. Your accomplishment is also significant for both this nation and others, as the new knowledge generated by research doctorates enhances the quality of life in this country and throughout the world. Because of the importance of persons earning research doctorates, several Federal agencies—listed on the cover—sponsor this Survey of Earned Doctorates.

The basic purpose of this survey is to gather objective data about doctoral graduates. These data are important in improving graduate education both at your home institution and beyond. Often, decisions made by governmental and private agencies to develop new programs, or to support present ones, are based in part on the data developed from this survey. If you have any comments about the survey, please provide them in the space below.

On behalf of the sponsoring Federal agencies, I thank you for your participation in this survey.

Best wishes,

Dr. Lynda T. Carlson
National Science Foundation

Additions to Questions

A2 (continued)

Name of Field

Number of Field

Name of Field

Number of Field

A9 (continued)

Degree Type		Degree Type	
Degree Field		Degree Field	
Year Granted		Year Granted	
Institution		Institution	
Branch or City		Branch or City	
State or Country		State or Country	

Comments about the Survey

Please return this questionnaire to your GRADUATE SCHOOL for forwarding to Survey of Earned Doctorates, NORC at the University of Chicago, 1 N. State Street, Floor 16, Chicago, IL 60602. If you have questions or concerns about the survey, you may contact us by e-mail at 4800-sed@norcmail.uchicago.edu or phone at 1-800-248-8649.

OFFICE USE ONLY			
Case ID	Instit. Code:	Grad Date:	Main Disp.:

PROCESSING

Receipt		Editing		CADE	
Initials	Date	Initials	Date	Initials	Date
Ver. Adjust		**Retrieval**		**Updates**	
Initials	Date	Initials	Date	Initials	Date

APPENDIX TWO

SURVEY OF MENTORSHIP FOR AMERICAN INDIAN / ALASKAN NATIVE WOMEN DOCTORAL DEGREE RECIPIENTS QUESTIONNAIRE

Informed Consent Process / Form

January 28, 2005

Dear Doctor:

I am a doctoral student at the University of Central Florida. As part of my Education Doctoral degree dissertation, I am conducting a survey, the purpose of which is to learn the nature of mentorship that American Indian /Alaskan Native women in doctoral degree education programs had available, and what would have been desired. As well as, educational mentorship the parent's educational level and family background are also surveyed. I am asking you to participate in this research study because you have been identified as (alone or in combination with one or more races) American Indian or Alaskan Native women with a doctoral degree.

Qualified survey respondents are asked to complete the attached survey with twenty-three questions. The survey of questions can be found following this letter. You do not have to answer any question you do not wish to answer. The survey is to be completed by replying to the email and within the body of the text. With your permission, I would like to record the survey answers. Only I will have access to the answers, which I will personally collect answers from the surveys, removing any identifiers during recording. Your identity will be kept confidential and will not be revealed in the final data collection. This will be done by limiting access to information on delivered and returned surveys to be viewed only by myself, and by ensuring that information is collected and stored as total numbers that cannot be identified to any one person. There are no anticipated risks, compensation or other direct benefits to you as a participant in this survey. You are free to withdraw your consent to participate and may discontinue your participation in the survey at any time without consequence. Furthermore, summary of the information provided will be sensitive to the AI/AN minority population. It will be ensured that there is an avoidance of generalization or stereotyping of the data collected to be reflective of this protected population.

In addition, it would be greatly appreciated if you could recommend any other American Indian /Alaskan Native women who have received research doctoral degrees such as Ph.D. and Ed.D, and is not a degree to practice a profession such as Psy.D., D.Min., Pharm.D., M.D., O.D, etc..

If you have any questions about this research project, please contact me at (604) 537-7777 (cell). My Dissertation Committee Chair is Dr. Boote. Questions or concerns about research participants' rights may be directed to the UCFIRB office, University of Central Florida Office of Research, Orlando Tech Center, 12443 Research Parkway, Suite 207, Orlando, Florida, 32826. The phone number is (407) 823-2901.

Please return this copy of the letter to email to torosalin@yahoo.ca. By emailing the letter back with consent to participate you give me permission to report your responses anonymously in the final data collection to be submitted to my faculty supervisor as part of my dissertation.

Sincerely,

Rosalin Hanna

Informed Consent Process / Form continued

We need to know if you do *or* do not want to participate in our study. From the two statements below, please do the following:

1. copy the statement that reflects your interest in participation in this study,
2. reply to this email,
3. paste your statement in the message of the email,
4. send the email.

I AGREE to participate as outlined above.

I do NOT wish to participate.

Also, indicate if in your email if you would like or not like to receive a copy of the final "dissertation" submitted to the committee chair.

Title of Project: Survey of Mentorship for American Indian and Alaskan Native Women Doctoral Degree Recipients

American Indian / Alaskan Native Women with Doctoral Degree Survey

First Name: _____
Middle Name: _____
Last Name: _____

Tribal Group: _____
Blood Quantum (%): _____

Other if any ethnic group: _____
Blood Quantum (%): _____

Name of Doctoral Institution: _____
City: _____
Type of Doctoral Degree: _____
Date Degree Granted (mm/yyyy): _____

ALL INFORMATION YOU PROVIDE WILL BE TREATED AS CONFIDENTIAL and used only for research or statistical purposes by Rosalin Hanna, the University of Central Florida for the purpose of analyzing data, and for preparing her dissertation.

Any information publicly released (such as statistical summaries) will be in a form that does not personally identify you. Your response is voluntary and failure to provide some or all of the requested information will not in any way adversely affect you.

The time needed to complete this form varies according to individual circumstances, but the average time is estimated to be 15 minutes. If you have comments you may write to Rosalin Hanna, PO Box 93, Maple Ridge, British Columbia, Canada, V2X 7E9.

INSTRUCTIONS
Thank you for taking the time to complete this questionnaire. Directions are provided for each question.
• If you have not already done so, please type your name above.
• Please type all responses; if submitting by electronic mail.
• When answering questions that require marking a box, please use an "X."

A1. Please name the department (or interdisciplinary committee, center, institute, etc.) of the university that supervised your doctoral studies.
Department: _____

A2. Was a master's degree a prerequisite for admission to your doctoral program?
Yes ( ) No ( )

A3. In what year did you first enter graduate school in any program or capacity, in any university?

A4. How many years after your undergraduate degree were you taking courses or preparing for exams for this doctoral degree (including a master's degree, if that was a part of your doctoral program)? _____ Years
Round to whole years

A5. After coursework and exams, how many years did you work on your dissertation (non-course related preparation or research, writing, and defense)? _____ Years
Round to whole years

A6. Did you earn college credit from a community or two-year college?
( ) 1 - Yes
( ) 2 - No

A7. Did you earn college credit from an American Indian /Alaskan Native community or two-year college?
( ) 1 - Yes
( ) 2 - No

A8. Are you earning, or have you earned, a professional medical or dental degree (e.g. MD, DDS), in addition to the doctorate?
( ) 1 - Yes
( ) 2 - No

B1. Which of the following were sources of social, emotional, academic, and professional support in during graduate school?
Mark ALL that apply
( ) a. Committee Chair
( ) b. Committee Member
( ) c. Graduate Faculty
( ) d. Graduate Colleagues
( ) e. Other Faculty
( ) f. Spouse/partner
( ) g. Family
( ) h. Employer
( ) i. Friend
( ) j. Tribal Group
( ) k. Elder
( ) l. Mentor
( ) m. Other - Specify

B2. Which THREE sources listed in B1 provided the most social, emotional, academic, and professional support in your academic pursuits?
Enter letters of primary and secondary sources
( ) 1 - Primary source of support
( ) 2 - Secondary source of support
( ) 3 - Third main source of support
Mark (X) if no secondary or third source of support

B3. Which of the THREE sources listed in B2 were women?
Mark (X) for support who were women
( ) 1 - Primary source of support
( ) 2 - Secondary source of support
( ) 3 - Third main source of support
a. If NO sources were women in B2 would it have been preferred? Yes ( ) No ( )

B4. Which of the THREE sources listed in B2 is an American Indian or Alaskan Native?
Mark (X) for support who were women
( ) 1 - Primary source of support
( ) 2 - Secondary source of support
( ) 3 - Third main source of support
a. If NO sources were American Indian/Alaskan Native in B2 would it have been preferred?
Yes ( ) No ( )

C1. What was your marital status at completion of your doctoral degree?
Mark (X) one
( ) 1 Married
( ) 2 Living in a marriage-like relationship
( ) 3 Widowed
( ) 4 Separated
( ) 5 Divorced
( ) 6 Never married

C2. What was your parent's marital status at completion of your doctoral degree?
Mark (X) one
( ) 1 Married
( ) 2 Living in a marriage-like relationship
( ) 3 Widowed
( ) 4 Widower
( ) 5 Both deceased
( ) 6 Separated
( ) 7 Divorced
( ) 8 Never married
( ) 9 Do not know

C3. What was you the structure of your family household for all or the majority of your years through age 18?
Mark (X) one
( ) 1 Lived With Both Parents
( ) 2 Lived With Extended Family
( ) 3 Lived With Single Family, Mother or Female Guardian head of household
( ) 4 Lived With Single Family, Father or Male Guardian head of household
( ) 5 Lived in Foster Care
( ) 6 Lived in Orphanage

C4. What is the highest educational attainment of your mother and father (or guardians)?
Mark (X) one for each parent
a. Mother
( ) 1 Less than high/secondary school graduate
( ) 2 High/secondary school graduate
( ) 3 Some college
( ) 4 Bachelor's degree
( ) 5 Master's degree (e.g., MA, MS, MBA, MSW, etc.)
( ) 6 Professional degree (e.g., JD, LLB, D.Min, MD, DDS, etc.)
( ) 7 Doctoral degree
( ) 8 Do Not Know

b. Father
( ) 1 Less than high/secondary school graduate
( ) 2 High/secondary school graduate
( ) 3 Some college
( ) 4 Bachelor's degree
( ) 5 Master's degree (e.g., MA, MS, MBA, MSW, etc.)
( ) 6 Professional degree (e.g., JD, LLB, D.Min, MD, DDS, etc.)
( ) 7 Doctoral degree
( ) 8 Do Not Know
( ) 9 Not applicable

C5. What is your place of birth?_____
State (if U.S.) _____
Country (if not U.S.) _____

C6. What is your date of birth? _____
Month/Day/Year

C7. What is your citizenship status?
Mark (X) one
U.S. CITIZEN
0 ( ) Since birth
1 ( ) Naturalized
NON-U.S. CITIZEN
2 ( ) With a Permanent U.S. Resident Visa ("Green Card")
3 ( ) With a Temporary U.S. Visa

C8. (IF A NON-U.S. CITIZEN) Of which country are you a citizen?
(Specify country of present citizenship)

C9. Have you lived on an Indian Reservation?
Mark (X) one
Yes ( ) No ( )

C10. Do You Practice American Indian or Alaska Native Traditional Culture?
Mark (X) one
Yes ( ) No ( )

C11. In what state or country was the high school/secondary school that you last attended?
State (if U.S.) _____
Country (if not U.S.)_____

In case we need to clarify some of the information you have provided, please list an additional E-mail address (if applicable) and telephone number where you can be reached.
E-mail address: _____
Daytime telephone: _____

Please sign and date. Signature _____Date_____

Please use the space below to make any additional comments you may have about this survey.

_____
_____
_____
_____

Thank you for completing the questionnaire. Please return this questionnaire to Rosalin Hanna, PO Box 93, Maple Ridge, British Columbia, Canada, V2X 7E9, or email to torosalin@yahoo.ca.

If you have questions or concerns about the survey, you may contact me by email or phone 1-604-537-7777 (cell).

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