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December 28, 2010

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POSI5397

**Applied Research Project Prospectus**

**Research Purpose**

In the fall of 2008 approximately 19.1 million people in the United States were enrolled in a degree-granting institution, with Native Americans accounting for 1% of that population (U.S. Department of Education, 2009). While this statistic is proportionate to the general population of the United States, the disparity that appears when graduation rates are examined is alarming. On average, 57.5% of students who entered a four-year institution of higher education in the United States in the year 2000 graduated within six years. Only 40.2% of Native American students who entered four-year institutions in that same year graduated within six years; a 17.3% difference from the general population (U.S. Department of Education, 2009). As Lin, LaCounte, and Eder (1988, 8) point out, “American Indians have achieved the lowest educational levels among all racial minorities.” Since the ability of a student to graduate is directly related to their GPA, it is important to understand the factors that affect a student’s GPA

The purpose of this research is to determine which factors explain success (GPA) of Native American students in post-secondary education. This research is important because educators and administrators need to understand what aids students in becoming academically successful, even if those students are part of an extreme minority. With an understanding of what helps students achieve a high GPA, educators can be better prepared to assist Native American students on their quest to close the graduation gap. This research strives to discover the factors that affect academic achievement for Native American students so that plans and programs can be developed to help them close that gap.

**Conceptual Framework**

A review of the literature has identified six factors that may have an effect on the academic achievement of Native American college students. Final high school GPA, financial aid, part-time employment, involvement in a student organization, feelings of isolation, and familial support are factors supported by the literature as having an effect on achievement. A set of hypotheses has been developed based on these findings in the literature and the purpose of this research is to test those hypotheses.

This research is explanatory in nature and so uses six formal hypotheses. As Shields and Tajalli (2005, 34) view explanatory research and the formal hypothesis as the mainstay of social and policy science, it is an appropriate conceptual framework to use when addressing such a social concern as academic achievement.

**High School GPA**

The first factor that must be considered as a determinate of college academic success is high school GPA. While making assumptions is almost never advisable, in this case, the assumption that academic success at the secondary level will mean success at the post-secondary level may well be prudent as “the correlation between high school GPA and GPA after the first year of college” has been found to be “both positively and statistically significant” (Gaskins 2009, 142).

Multiple studies have supported this, including Kirby, White, and Aruguete’s 2007 study which found “only high school GPA and high school rank significantly predicted college GPA in non-White students” (463). A study focusing specifically on Black students found that college GPA was significantly predicted by high school GPA (Bryson, et al. 2002) while a study focusing specifically on American Indians found that those with a high school GPA above the mean had a higher college GPA after the first year than those who had a high school GPA below the mean (Gaskins 2009). Although this factor may not be relevant for the entire student population, it appears to be a significant factor in predicting GPA for minorities in general and Native Americans in specific.

Given the information found in the literature, those students with a previous track-record of achievement are expected to continue achieving at the collegiate level. Because of this, once can expect that:

H1: High school grade point average (GPA) will positively affect Native

American student success.

**Financial Aid**

With nearly 66% of undergraduate students receiving financial aid in the 2007-2008 school year (U.S. Department of Education, 2009), it is no surprise that finances would be an important factor in the ability of a student to achieve. Empirical studies conducted by Gaskins (2009), Stater (2009), and Reyhner and Dodd (1995) concluded in results showing the importance of financial resources on the ability of a student to be academically successful at the post-secondary level. In short, these studies show that decreased stress in regards to financing their education leads to higher achievement for students.

Wells’ (1989) study found that “financial difficulty ranks among the top four factors hindering college level achievement for Native Americans.” Almeida (1999) agrees, even going so far as to assert that obtaining adequate financial aid is the most serious of the challenges facing Native American students. Based on the results of both the empirical and academic studies, it is logical to expect that:

H2: Native American students that receive financial aid will be more

successful than students that do not.

**Employment Status**

If a student’s time outside of class is spent working, they are without a doubt losing time that could be spent studying. Generally, the less time a student dedicates to studying, the less likely they are to be academically successful. Through the transitive property (if a=b and b=c, then a=c), this means that holding a job while in school can have negative effects on a student’s ability to achieve. A 2009 study by Beffy, Fougere, and Maurel supports this assumption as it found “especially strong negative impacts of part-time work on academic achievement” (3).

However, there appears to be another side of the story. What if working could actually have positive effects on student achievement? Dundes and Marx argue that while there is indeed literature to support the negative effects of part-time work on student success, they have found this to be true “only when students’ work schedules exceed a threshold ranging from 15 to 20 hours per week. In fact, students who work fewer than 15-20 hours per week often have *higher* grade point averages (GPA) and graduation rates than their nonworking counterparts” (2006, 108). Although it is easy to assume that time spent working is time spent away from studying, it is possible that time spent working forces a student to be more productive and effective with the time that is spent studying. As research is conflicting on the effect of working while in college, except that there is an effect, we can expect that:

H3: Holding a part-time job will affect Native American student success.

**Involvement in a Student Organization**

As the saying goes, all work and no play makes Jane a dull girl. In the case of a student at the collegiate level, it might also make Jane a less successful girl. Research results suggest that an important factor in the ability to achieve academically is that students have some organized form of support from peers and faculty (Hoover & Jacobs 1992, 7). In short, involvement in a student organization on campus has not only socially benefits, but academic benefits as well.

As “engagement in university social groups is a consistent predictor of college success for Native American students” (Lundberg 2007, 207), it is reasonable to expect that:

H4: Native American students that are involved in a student organization will

be more successful than students that are not.

**Feelings of Isolation**

Unsurprisingly, once at college, “almost all Native American students tend to feel isolated” (Carney 1999, 147). Though it is not unusual for new students on university campuses to feel isolated given the new environment, tougher workload, and distance from their family, Native American students have the added burden of being in an environment that is, more often than not, designed with a predominantly White student population in mind. Further, Lin, LaCounte, and Eder found that the perception of campus hostility and the feeling of isolation in a predominantly White college contribute significantly, though indirectly, to the problem of academic performance of Indian students” (1988, 8).

It has also been indicated that it is a feeling of being torn between their native culture and the dominant culture in the higher education community that contributes to the markedly lower achievement for Native American students (Lundberg 2007, 406). This research indicates that feelings of isolation lead to negative outcomes in terms of student achievement. Based on this, one would expect that:

H5: Native American students that experience feelings of isolation will be less

successful than students that do not.

**Familial Support**

As in many other cultures, the approval and support of family is often very important to Native American children when pursuing their goals, especially in the academic field. If a family is constantly supporting and encouraging a student to succeed it is not surprise that “successful students feel an obligation to their families and believe their personal triumphs are triumphs for their families as well” (Herndon & Hirt 2004, 508). Knowing that there are people standing behind them would encourage students to do well if for no other reason than not wanting to disappoint. When successful Native American students were asked to explain the greatest influence on their success, they most often responded with their family (Reyhner & Dodd1999; Rindone 1998). In fact, in many cases students feel that “the encouragement [of their family] was almost an imperative to be academically successful” (Jackson et al. 2003, 553). Given these responses of students, one would expect that:

H6: Familial support will positively affect Native American student success.

Testing these hypotheses will explain the factors that affect Native American academic achievement. Table 1 summarizes the formal hypotheses and links them to their supporting literature.

**Table 1: Conceptual Framework Linked to the Literature**

|  |  |
| --- | --- |
| **Formal Hypothesis** | **Supporting Literature** |
| H1: High school grade point average (GPA) will positively affect student success. | Bryson, Smith, & Vineyard (2002); Gaskins (2009); Kirby, White, & Aruguete (2007) |
| H2: Students that receive financial aid in the form of scholarships and/or grants will be more successful than students that do not. | Almeida (1999); Gaskins (2009); Reyhner & Dodd (1995); Stater (2009); Wells (1989) |
| H3: Holding a part-time job will affect student success. | Beffy, Fougere, & Maurel (2009); Dundes & Marx (2006); Ehrenberg & Sherman (1987) |
| H4: Students that are involved in an organization will be more successful than students that are not. | Hoover & Jacobs (1992); Harrington & Hunt (2010); Jackson, Smith, & Hill (2003); Lundberg (2007); Shotton, Oosahwe, & Cintron (2007) |
| H5: Students that experience feelings of isolation will be less successful than students that do not. | Carney (1999); Gaskins (2009); Lin, LaCounte, & Eder (1988); Lundberg (2007) |
| H6: Familial support will positively affect student success. | Herndon & Hirt (2004); Jackson, Smith, & Hill (2003); Reyhner & Dodd (1995); Rindone (1988); Wells (1989); Willeto (1999) |

**Methodology**

This study will use survey responses to explain the factors affecting academic achievement of Native American college students. Survey research will be used to test the six previously stated formal hypotheses as Babbie (2010, 254) finds it appropriate for explanatory research with individuals as the unit of analysis. In this case the unit of analysis is Native American college students. The dependent variable is post-secondary grade point average (GPA). Independent variables are final high school GPA, financial aid, employment, involvement in a student organization, feelings of isolation, and familial support. The control variable is gender. These variables and their corresponding hypotheses are operationalized in Table 2. The unit of measurement and data source are also identified.

**Table 2: Operationalization of the Hypotheses**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables** | **Hypothesis** | **Definition/**  **Measurement** | **Data Source** |
| **Dependent** |  |  |  |
| Grade Point Average (GPA) |  | Open-ended estimate of GPA on 4.0-scale | Survey Q9 |
| **Independent** |  |  |  |
| Final High School GPA | H1 | 0= 2.5-3.0  1= 3.1-3.5  2= 3.6-4.0 | Survey Q2 |
| Financial Aid | H2 | 1= Yes  0= No | Survey Q 4 |
| Employment | H3 | 1= Yes  0= No | Survey Q5 |
| Open-ended response as to the number of hours the student works each week. |
| Involvement in a Student Organization | H4 | 1=Yes  0= No | Survey Q6 |
| Open-ended response as to the number of organizations in which the student is involved. |
| Feelings of Isolation | H5 | 1= Yes  0= No | Survey Q7 |
| Familial Support | H6 | 0= Low  1= Medium  2= High | Survey Q8 |
| **Control** |  |  |  |
| Gender |  | 0= Male  1=Female | Survey Q1 |
| Upbringing |  | 0= On a reservation  1=In the dominant society | Survey Q3 |

**Dependent Variable**

Grade point average is often used by scholars as a measure of academic achievement. In fact, Stater (2009, 783) notes that while “there are numerous ways to conceivably measure academic success…among the simplest and most straightforward is the student’s grade point average.” Following this logic, the dependent variable in this study is grade point average (GPA), which will be measured on a 4.0 scale. This data will be obtained from participants through an open-ended question and is hypothesized to depend on six independent variables.

**Independent Variables**

The first independent variable for this study is final high school GPA, and will be trichotomous with each value (0, 1, 2) representing a range of possible GPAs. Financial aid, employment, involvement in a student organization, and feelings of isolation are all dichotomous variables, with the value of 0 representing a negative (NO) response, and the value of 1 representing a positive (YES) response. Employment and involvement in a student organization will also be measured numerically as participants are asked to list the number of hours/the number of organizations they are involved in if they answered positively (YES) to each respective question. The final independent variable is familial support which is a trichotomous variable with the value of 0 representing low support, the value of 1 representing medium support, and the value of 2 representing high support.

**Control Variables**

The control variables for this study will be gender and upbringing. Gender is dichotomous with the value of 0 representing male and the value of 1 representing female. Upbringing is also dichotomous with the value of 0 representing being an upbringing on the reservation and the value of 1 representing and upbringing in the dominant society. The significance of these control variables will be determined using a chi-square goodness-of-fit test.

**Sampling**

Surveys will be distributed in paper form to students at the 2nd year level or higher through Native American student groups at institutions of higher education throughout the country. Participants for the survey will not be randomly selected as the goal is to include as many responses as possible. The snowball technique will also be used to gather responses from participants beyond those reached through a student group.

**Statistics**

The statistical technique used to test the six hypotheses is multiple regression analysis. According to Babbie (2010, 475) is used to determine the impact of “two or more independent variables on a single dependent variable.” By using a multiple regression analysis we will be able to determine if a Native American student’s academic achievement is in fact affected by high school GPA, financial aid, employment, involvement in a student organization, feelings of isolation, and familial support.

**Human Subjects Protection**

Babbie (2010, 64-68) states that some of the primary areas for ethical concern in social research are voluntary participation, harm to the participants, anonymity and confidentiality, and deception. To address these issues, each survey, as presented in Attachment A, will contain a statement of the research purpose as well as a statement reassuring participants that participation is strictly voluntary and that absolutely all information obtained will remain anonymous and confidential. Contact information for the researcher will be provided for those participants who have questions or concerns.

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**Attachment A**

**Survey Instrument**

**The goal of this research is to determine the factors that affect Native American students’ academic achievement. The survey process should take approximately 2-3 minutes to complete. Refusal to participate in this survey will involve no penalty or loss of benefits to which you are entitled. Participation in this survey is voluntary and any responses given will remain completely confidential. I alone will have access to the information you provide. Please feel free to stop filling out this survey if you at any time feel uncomfortable. If you should have any questions about your rights or any other issue, please feel free to contact me, Heather Crosby, at 210.325.8045 or** [**hc1116@txstate.edu**](mailto:hc1116@txstate.edu)**. Thank you very much for your assistance.**

**Please complete the following questionnaire items.**

1. Please circle your gender: **M F**

**Please choose one answer for the following multiple choice question.**

2. My final high school GPA was:

(a) 2.5-3.0

(b) 3.1-3.5

(c) 3.6-4.0

**Please circle YES or NO in response to following statements.**

3. I grew-up on a Reservation. **YES NO**

4. I receive financial aid (including scholarships and grants) to attend school. **YES NO**

5. I work as well as attend school. **YES NO**

**If you answered YES to the above statement, how many hours per week do you work on**

**average? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

6. I am involved in a student organization on campus. **YES NO**

**If you answered YES to the above statement, please list the number of organizations in**

**which you are involved. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

7. I often experience feelings of isolation while attending school. **YES NO**

**Please choose one answer for the following multiple choice statement.**

8. I would rank the support I receive from my family as being:

(a) Low

(b) Medium

(c) High

**Please complete the following questionnaire items.**

9. My current GPA, on a 4.0 scale, is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_