AN EXAMINATION OF CLASS AND CULTURAL VARIABLES, EXPLANATORY STYLE, AND ACADEMIC ACHIEVEMENT AMONG NATIVE AMERICAN AND CAUCASIAN COLLEGE STUDENTS

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CHAPTER I

INTRODUCTION

The "browning of America" is a phrase used to refer to the racial demographic change in America over the past four decades. Similar to the increased diversity in America, the ethnic diversity of students enrolling in American universities has also increased dramatically (Jones, Castellanos, & Cole, 2002). Despite this increase, minority students continue to experience difficulties in the academic setting (for reviews, see; Bowker, 1992; House, 1998; Jones, Castellanos & Cole, 2002; Ogbu & Simmons, 1998). Generally speaking, existing literature has indicated minority students exhibit extremely low levels of academic achievement in comparison to Caucasian students.

One minority group that has exhibited consistent difficulties in the academic setting is Native American students (Lin, Lacounte, & Eder, 1988). Although the amount of Native American students entering college has increased considerably since the 1960's, Kerbo (1981) reported that Native American students complete college less than half as often as Caucasian students. In fact, Gloria and Kurpius (2001) reported Native American students have the highest dropout rates and lowest graduation rates among all minority students in the United States. Further, research has indicated 75% to 93% of all Native American students will eventually dropout of college (Falk & Aitken, 1984; Huffman, Sill, & Brokenleg, 1986).

A review of the 2001 census data (U. S. Bureau of the Census, 2002) revealed Native American individuals were less likely than any other group in the United States to have completed a bachelor's degree or higher. Further, whereas 75% of the total population in the United States has completed high school, only approximately 66% of Native American individuals have reached that level of education (high school graduates or greater). Although that percentage has increased since 1980 (from 56% to 66%), the discrepancy between Native American educational attainment and that of the total population continues to be disconcerting.

In addition to lower levels of academic achievement, existing research suggests Native Americans have poorer economic outcomes compared to other ethnic groups in the United States. For example, the 2001 U. S. Census data (U. S. Bureau of the Census, 2002) revealed Native Americans represented the highest percentage of individuals living below the poverty level. The percentage of persons below the poverty level was 8.1% for Non-Hispanic Whites, 12.6% for Asians, 17.7% for Native Hawaiians or Other Pacific Islanders, 24.9% for African Americans, and 25.7% for Native Americans and Alaskan Natives.

Although poverty levels were not reported for Native American individuals in the 1992 census data, the most recent figures reflect the percentage of all other minority groups living below the poverty level in the 1992 census report. Poverty levels for Native American populations likely have not changed much over the past decade. In addition, Native Americans had nearly the lowest median income for the 2001 census data. Asians-alone or in combination with another race had the highest median income at $53,635 followed by Non-Hispanic Whites with a reported median income of $46,305. Hispanics

had a median income of $33,565, and Native Americans alone (no other racial category) had the second lowest median income of $32,116. African Americans alone had the lowest reported median income of $29,470.

Theoretical Models of Minority Group Academic Achievement

Lack of educational attainment among Native American individuals undoubtedly impacts their ability to succeed economically. In turn, economic impoverishment impacts the ability to obtain a higher education. Without an academic degree, it is unlikely Native American individuals will earn incomes comparable to individuals in the majority culture. In an effort to understand the underachievement of minority students, a number of theories have been proposed. General predictors of academic underachievement include insufficient pre-college experiences, low motivation, lack of family emphasis on education, poor student/faculty relations, inadequate study habits, and financial need (Falk & Aitken, 1984; Huffman, Sill, & Brokenleg, 1986; Lin, LaCounte, & Eder, 1988; Tate & Schwartz, 1993).

In addition to general predictors of academic performance among minority students, specific theories have been proposed. For instance, Ogbu and Simmons (1998) proposed the Cultural-Ecological Model of academic performance among minority students. The Cultural-Ecological Model examines societal, educational, and community dynamics that impact ethnically diverse communities. This theory states that differences in academic achievement are caused by the treatment of minority students by the majority culture and the way in which minority students perceive that treatment. Another proposed model is Tinto's (1975) Social Integration Model. This longitudinal theoretical model conceptualizes academic persistence as a result of a positive interaction between the

student and the institution (Stoecker, Pascarella, & Wolfe, 1988). Tinto's model involves a combination or integration of the student's predisposition and experiences in the academic environment that result in varying degrees of academic and social integration. The extent to which individuals place value on these dimensions of integration is thought to influence their decisions to persist or not persist in school.

Another popular theory that has been specifically applied to Native American student underachievement is the cultural discontinuity hypothesis. This perspective maintains that Native American students perform more poorly in the academic setting because their cultural belief system is at odds with mainstream cultural structures inherent in the formal American school system (Locust, 1988; Sanders, 1987). Although there is some merit to this perspective, the cultural discontinuity hypothesis has often been taken as incontrovertible fact to explain underachievement in Native American students despite the absence of well-controlled studies documenting its validity. In fact, evidence suggests that such unwarranted acceptance of the cultural discontinuity explanation has been at the expense of developing competing theories (Ledlow, 1992).

A promising alternative to the cultural discontinuity hypothesis is the structural barrier approach. This approach examines the role of perceived social barriers and the way these barriers negatively influence the academic achievement and achievement motivation of Native American students (e.g., Wood & Clay, 1996). This approach suggests minority group members that have experienced discrimination may eventually acquire pessimistic, but accurate, perceptions regarding educational attainment as a means of advancement (see also Bickel & Papagiannis, 1988). Due to societal barriers such as discrimination, minority group members often encounter glass ceilings (a vague

barrier that prevents minorities from advancing), and accurate perception of such obstacles is believed to influence future expectations for success. Therefore, pessimistic expectations for future outcomes may lead to diminished achievement motivation for, and potentially disidentification with, a particular domain of functioning such as education (Osborne, 1997).

Despite the importance of existing findings on Native American academic achievement, the lack of a concise theoretical framework to organize results and translate findings into intervention strategies for Native American students limits the utility of existing findings. For example, both the cultural discontinuity and structural barrier approaches look to larger societal changes as remedies. Although modifying educational environments and eliminating structural barriers in society that limit socioeconomic attainment for minority individuals would be ideal, placing the process for change exclusively on external forces may contribute to decreased perceptions of personal agency in overcoming adversity and challenges (cf. Ruggiero & Taylor, 1995).

Existing Research

The preceding theories may be useful in conceptualizing the way minority student status can impact academic achievement. However, problems remain in that the theories do not acknowledge various cognitive factors that may be important to minority student achievement. Existing theories provide environmental explanations for student achievement, but fail to account for student-specific factors. For example, researchers have included diverse racial samples in studies on minority student achievement but few have accounted for the level of identification the student has with his/her culture. Studies that have examined the relationship between cultural identification and academic

achievement have resulted in mixed findings. Whereas some data suggests more traditional Native American students perform better in college (e.g., Huffman, Sill, & Brokenleg 1986; Kerbo, 1981), other findings indicate that greater identification with a minority culture is associated with poorer performance (e.g., Hernandez, 1996).

Similar to cultural identification, researchers have not clearly examined the role of perceived deprivation separate from socioeconomic status (SES) in determining academic achievement. SES is a variable that has long been associated with academic achievement, with higher levels of SES related to higher levels of academic achievement (for reviews, see Jeynes, 2000; Peng & Wright, 1993). However, few researchers have distinguished between objective indices of SES and subjective perceptions of environmental and socioeconomic deprivation as they relate to academic achievement. Only a handful of studies (e.g., Hernandez, 1996; Robertson, 1998) have directly investigated the cognitive manifestations of economic hardship and the potential negative future expectancies that may result.

A primary problem with existing literature on Native American student performance is that researchers have failed to examine traditional models of achievement motivation in this population. Specifically, most of the major theories introduced above regarding academic achievement among minority students invoke unique explanations for academic failure (e.g., structural barriers, cultural discontinuity) but fail to examine established cognitive variables as they relate to student achievement. A potential cognitive variable examined in academic achievement among the general population is attributional style. However, few studies have examined causal attributions and academic achievement in Native American college students. One of the difficulties in applying

traditional psychological theories to minority populations is that the vast majority of theories (including attributional models) were established primarily with Caucasian samples. Indeed, there is some evidence to suggest the learned helplessness theory in general, and causal attributions more specifically, may operate differently for ethnic minority groups (Duda, 1985; Hernandez, 1996; Hicks, 2004; Robertson, 1998).

The Current Study

Native American students have among the lowest levels of academic achievement of all students (Willeto, 1999). In addition, Native American individuals have nearly the lowest median income and highest levels of poverty in the United States. Low income and living in poverty conceivably contribute to low levels of academic attainment reported among Native American populations. The majority of existing literature has failed to adequately explain the lack of academic achievement among this group. Past researchers have failed to examine the role specific variables have on the attributional style and subsequent academic performance of Native American students. The purpose of the current research was to examine the contribution of ethnic identification (level of ethnic identification versus racial minority status) and class variables (socioeconomic status versus perceived deprivation) on the attributional style of Native American students. This research also examined the relationship of these variables to the academic achievement of Native American college students.

In the current study, several relationships were examined regarding the academic achievement of Native American students. First, the relationship between attributional style and academic achievement was examined among a group of Native American and Caucasian college students. Second, cultural identification was examined as it related to

the academic achievement of participants in the study. Next, attributional style was explored as a potential mediator in the relationships between the variables of cultural identification, SES, and perceived deprivation. The previously mentioned variables were also investigated as they related to academic performance.

To meet the aspirations of this study, a review of the reformulated learned helplessness theory is provided. Next, a review of the literature regarding explanatory style and academic achievement is presented. Then, a literature review regarding explanatory style in ethnic minority groups is offered, followed by a summary of the literature regarding cultural identification. A review of the literature on the perceived deprivation theory as it relates to socioeconomic status and academic achievement is then discussed. Finally, the findings of the study are presented and discussed.

CHAPTER II

REVIEW OF LITERATURE

Learned Helplessness

General Theory. The learned helplessness model proposes that when an individual is repeatedly exposed to an uncontrollable aversive event, the person learns their responses are useless and that they have no control over the situation (Overmier & Seligman, 1967). The organism subsequently generalizes the helplessness to other situations. Overmier and Seligman (1967) and Seligman and Maier (1967) observed learned helplessness in animal laboratory experiments in which dogs were presented with a series of electrical shocks that could be neither escaped nor avoided. After repeatedly being shocked, the dogs eventually learned that despite their efforts, the negative stimulus (shock) could not be avoided. In response to the unavoidable and inescapable event, the dogs became immobile and passively received the shocks. This phenomenon of not responding to the event became known as "learned helplessness." The dogs eventually generalized the uncontrollable events to those that were controllable and ultimately displayed behavioral activation deficits in response to novel stimuli (Peterson, Buchanan, & Seligman, 1995).

Attributional Reformulation. The learned helplessness model was applied outside animal research to human participants. In this application, the model failed to account for the wide range of responses made by human participants to uncontrollable events.

Although the learned helplessness model was able to predict responses to negative events in some circumstances, it failed to predict certain reactions. Specifically, it failed to predict three observed phenomenon: 1) why self-esteem loss was observed in humans, 2) why helplessness deficits were sometimes chronic while at other times they were transient, and 3) why for some people, helplessness was general and pervasive, while in other cases it was specific to the event (for a review, see Peterson, Buchanan, & Seligman, 1995). In order to address the shortcomings of the model, Abramson, Seligman, and Teasdale (1978) proposed a reformulated learned helplessness model.

The reformulated learned helplessness model integrated an attributional or causal search component to explain the observed differences when applying the model to human participants. The attributional explanation of learned helplessness proposed that when an untoward event occurs, people initiate a causal search to explain the event. In doing so, the answers they supply reflect the causal attributions made by the person to help him/her understand why the event occurred. For example, if a student were to fail a mathematic test, he/she would immediately ask "Why did this happen?" The answer to that question (e.g., "Because I am not very smart and fail at everything" or "Because the test was poorly written") is a reflection of the causal attributions made by the individual.

The reformulated learned helplessness theory is comprised of three attributional dimensions. The first dimension (Stable versus Unstable) takes into account whether an individual perceives the cause of a negative event as temporary or enduring. If the attributions are stable, the event is perceived as longstanding; if the attributions are unstable, the cause of the event is perceived as temporary. The second dimension (Global versus Specific) refers to the perceived generalizability of the event. If attributions are

global, the cause of a particularly negative event is more likely to be generalized to other situations; if they are specific, the cause of an event is perceived as being restricted to a specific event or domain of functioning. The third dimension (Internality versus Externality) refers to attributing the cause of negative events to personal characteristics, as opposed to others or to external circumstances. If internal attributions are made about a negative event, a decrease in the person's self-esteem is generally observed. However, if the attributions are external, the individuals' self-esteem is preserved (i.e., the self-serving bias, Zuckerman, 1979).

According to the reformulated learned helplessness model, a pessimistic attributional style consists of attributing negative events to internal, stable, and global causes. This negative style is related to a helpless reaction. Reactions that accompany helplessness include passivity, sadness, anxiety, hostility, and low self-esteem (Peterson & Seligman, 1984). Any experience that involves learned helplessness might also be related to an individual's attributional style including athletic performance, health, and career status (Bridges, 2001). Inasmuch, researchers have investigated the relationship between attributional style and academic achievement.

Explanatory Style and Academic Achievement

The reformulated learned helplessness model assumes the way a person reacts to a life event will depend on the causal attributions he/she makes about that event. Abramson, Seligman, and Teasdale (1978) posited that attributions made about the cause of a given event which are internal, stable, and global may lead to greater adjustment difficulties (e.g., failing an exam and interpreting the low grade as a lack of personal intellectual ability). Researchers have demonstrated that poor academic achievement is in

part a result of the person's attributions, or what will also be referred to as explanatory style.

Peterson and Barrett (1987) examined academic attributional style and academic performance in 87 college freshman (59 females, 28 males). Participants completed questionnaires regarding their academic goals, levels of depression, academic attributional style, and coping style in response to academic failures. The researchers reported that students' pessimistic attributional style for academic events was correlated with poorer academic achievement (as measured by the students reported grade point average). Specifically, participants who attributed negative academic events to internal, stable, and global causes were at risk for poorer grades during their first year of college.

Nolen-Hoeksema and Girgus (1995) examined the relationships between explanatory style, school achievement, and achievement-related behaviors among a group of elementary school children. The researchers used the Children's Attributional Style Questionnaire (CASQ) to examine the participant's explanatory style. In addition, every six months they asked teachers to assess the child's tendency to exhibit learned helplessness (e.g., low motivation, giving up easily, and saying, "I can't do this."). Student scores on standardized achievement tests were used to assess academic achievement. Results revealed children who reported a pessimistic explanatory style also exhibited behaviors of learned helplessness in the academic setting. Further, these children were more likely to perform worse on standardized achievement tests when compared to children with optimistic explanatory styles. Finally, the researchers reported a strong relationship between teacher report of helpless behaviors in the academic setting and the child's academic achievement six months later.

Schulman et al., (1990) examined the role of explanatory style on academic achievement among a group of 175 sophomore, junior, and senior college students. Students completed the Academic Style Questionnaire (ASQ) to assess explanatory style. Student-reported grade point average (GPA) was used to assess academic achievement. Results revealed student responses on the ASQ were significantly correlated with GPA, with pessimistic explanatory style correlated with lower GPA's.

In another study, Platt (1988) examined attributional style in 208 first-term college students enrolled in an engineering honors program. The primary purpose of Platt's study was to present a causal model that examined the relationships between causal attributions, intervening variables, and academic achievement. The author also examined the attributions of past academic success (high school experiences) to investigate whether these attributions impacted the participant's experience in college. Participants completed questionnaires to assess perceived level of high school success and attributions, expectancy of success in college, predicted level of effort required in college, and academic self-concept. Scores on the ACT mathematics and Composite scales were used to assess each participant's ability level. Results revealed participant's causal attributions alone did not impact GPA. However, when considering the intervening variables of expectancy and predicted effort in college, GPA was impacted.

Gibb, Zhu, Alloy, and Abramson (2002) investigated the relationship between attributional style and academic achievement among 109 college students in a 5-year prospective follow-up study. College students were asked to complete questionnaire data in their freshman year and follow up data was collected five years later. A revised version of the ASQ was used to assess attributional style. Student GPA's for their entire college

career and SAT scores were used to assess academic achievement. Results revealed interesting findings in that freshman participants with pessimistic attributional styles reported higher GPA's when they also reported higher levels of academic ability (as indicated by high SAT scores). In contrast, participants with optimistic attributional styles reported equivalent GPA's regardless of their level of academic ability.

In addition, Forsterling and Binser (2002) examined depression, school performance, perceived grades, and causal attributions among a group of 85 female and 98 male high school students. Students were asked to complete questions regarding demographic information, selected questions from the ASQ and the Beck Depression Inventory (BDI), self-perception of grades in Math, English, and German, and the grades of three classmates who they liked most. Results revealed children with high depression scores were associated with 'depressogenic' attributions (or, pessimistic attributional style). High depression scores were related to pessimistic attributional style and lower grades in Math, English, and German. Further, children with lower grades were more likely to make depressogenic attributions than children with higher grades, thus, supporting the theory that a pessimistic attributional style is related to poorer academic achievement.

Explanatory Style in Ethnic Minority Groups

Cross-cultural examinations regarding academic attributional style have revealed cultural differences in causal attributions. For example, Duda (1980) reported unique results regarding attributions for achievement among 45 Native American high school students. Participants were asked to describe, in an open-ended format, personal success and failure experiences in the classroom setting. Results indicated success and failure

were seen as either dispositional (personal) characteristics (i.e., viewing success as being wise and failure as being lazy), related to behavior or performance (i.e., defining success as working hard and failure as not doing better than he/she did last time), or the result of performance outcome (i.e., defining success as having a lot of money and failure as losing).

According to empirical work measuring academic success (for review, see Duda & Allison, 1989), achievement has been defined with respect to an external standard of excellence in a competitive framework. Success has been related to attainment of certain standards (i.e., high grades), whereas failure has been viewed as the opposite of success (i.e., low grades). However, results of Duda's (1980) study indicate definitions of success and failure may vary widely according to the culture under study. Therefore, definitions of success and failure are not concrete, global units that can be assumed universal across cultures.

Existing research in the area of explanatory style and academic achievement among minority groups has revealed contradictory findings. For instance, Hernandez (1996) examined attributional style and academic achievement in a mixed minority sample compared to a non-minority college student sample (39 minority, 39 non-minority). Participants completed a variety of questionnaires including the Academic Attributional Style Questionnaire (AASQ). In addition, academic achievement was assessed using student self-reported GPA's. Findings revealed that the attributional model of learned helplessness was replicated within the non-minority group. Specifically, internal, stable, and global attributions for negative academic events were correlated with poorer GPA's for Caucasian students. In contrast, a positive correlation was found

between pessimistic causal attributions and student GPA for minority students in the study. In other words, *pessimistic* causal attributions for academic events were associated with better academic performance.

In addition, Robertson (1998) examined the relationship between attributional style and academic achievement in 95 high school students (36 Native Americans, 59 Caucasians). Similar to the Hernandez (1996) study, participants completed the AASQ. For Caucasian participants, causal attributions for negative academic events were not significantly associated with GPA. However, for the Native American participants, pessimistic attributions were positively correlated with GPA. Consistent with findings of Hernandez (1996), *pessimistic* causal attributions for academic events were associated with higher academic achievement.

In a study not specifically related to academic achievement, Hicks (2004) examined learned helplessness among Native American and Caucasian college students (22 male, 46 female). The author observed a trend in increased problem-solving deficits in response to noncontingent feedback among Caucasian participants. However, Native American participant performance remained the same regardless of experimental feedback. Thus, indicating in contrast to Caucasian participants, Native American participants did not exhibit learned helplessness to noncontingent feedback.

While relatively few studies have examined causal attributions and academic achievement in ethnic minority populations, extant findings contradict established results in non-minority groups. Whereas some researchers report that pessimistic causal attributions are related to poorer academic achievement (e.g., Gibb, Zhu, Alloy, & Abramson, 2002; Nolen-Hoeksema & Girgus, 1995; Peterson & Barrett, 1987; Schulman

et al., 1990), others (e.g., Hernandez, 1996; Robertson, 1998) report the opposite relationship among minority students, including Native Americans. Although the learned helplessness theory seems to provide a reliable framework for understanding academic performance among non-minority students, this relationship is not as clear for minority students.

Additional research regarding failure and success attributions has suggested differences between minority and non-minority students. For example, Powers and Rossman (1984a) examined attributions for school success or failure among 211 low-achieving Native American and Caucasian students. The authors reported Native American students were more likely to attribute school achievement to effort than were Caucasian students. Further, Native American students were more likely than Caucasian students to attribute school failure to lack of effort. The authors suggested that this finding was related to higher frustrations for Native American students. Further, Native American students who attributed school success to their own ability were more achievement-motivated than Caucasian students.

In another study, Powers and Rossman (1984b) found similar results when comparing 399 minority college students including African American, Hispanic, Caucasian, and Native American students. The authors reported that Caucasian, Hispanic, and Native American college students were similar in their internal attributions for academic success. African American students exhibited similar internal attributions for positive events; however, they also attributed negative events to their own lack of ability and bad luck. With respect to attributions for failure, African Americans and Native Americans both attributed failure to their own lack of effort (i.e., internal) whereas

Caucasian and Hispanic students attributed failure to the context of the event (i.e., external).

The studies conducted by Powers and Rossman (1984) have contributed important evidence indicating minority and non-minority individuals may react differently to attributions regarding academic achievement. However, these studies did not examine the actual academic achievement of the participants in the study. Therefore, it is not clear whether these attributions actually result in different levels of academic achievement. Currently, there is a lack of consensus regarding the role of explanatory style in predicting academic achievement (Bridges, 2001). This is especially true for minority students.

Cultural Identification

Some researchers have examined cultural variables in relation to Native American academic achievement to better understand the (under)performance of these students. Certain cultural theories (e.g., cultural discontinuity theory) have been widely accepted in the scientific community despite a lack of evidence for validity across populations. Due to acceptance of empirically unsupported theories, sound hypotheses on the role of culture in the academic achievement of Native students have been slow to develop. Similar to the literature on causal attributions and Native American academic achievement, inconsistent findings exist in studies examining the role of culture in Native American student achievement.

Kerbo (1981) conducted a study examining the significance of cultural factors in school performance among a group of 102 Native American high school students. Data were gathered on participants' degree of Indian blood, assimilation, harboring values that

rejected individual competition, and the percentage of Native American students in the high school the participant attended. Cultural involvement was assessed by questions determining how closely individuals were tied to Native culture, including knowledge of Native American language and whether the student had ever lived on a reservation or had a parent who had lived on a reservation. Results indicated Native American racial identity was the best predictor of GPA, with racial identity positively correlated with GPA. Additionally, degree of Caucasian blood and the number of Caucasian friends reported were predictors of better achievement, with a positive correlation between number of Caucasian friends and GPA. Cultural factors (as measured by rejection of competition beliefs and parents having lived on a reservation) were also related to college GPA.

In another study, Huffman, Sill, and Brokenleg (1986) examined the role of cultural, social, and aspirational factors in college achievement in 38 Native American and 48 Caucasian students. To assess cultural levels, Native American students were administered a set of questions regarding traditionalism (e.g., knowledge of Native language, participation in native ceremonies while in college, and identification of a reservation as a permanent residence). Positive responses on two of the three items resulted in the classification of the individual as traditional. Results revealed that of the variables in the cultural category (college integration, participation in the college environment, Native American traditionalism), Native American traditionalism was the only variable that predicted college achievement for the Native American sample. Greater Native American traditionalism was significantly related to better college achievement. Further, the researchers hypothesized that an important contributing factor to college

achievement within the Native American students was the maintenance of traditional cultural identity and heritage.

Other studies regarding cultural identification and academic achievement have revealed opposing findings. For example, Hernandez (1996) examined the role of cultural and class variables in predicting academic achievement among 39 minority and 39 non-minority college students. Participants were administered the Minority Identification Questionnaire (MIQ; Oetting & Beauvais, 1991) to assess for identification with a culture. Results revealed that for minority participants, greater identification with their minority culture was associated with lower academic achievement. Interestingly, lower cultural identification was associated with increased depression.

Clearly there is a lack of empirical consensus as to the impact cultural identification has on academic achievement for Native American students. The differences found in existing research can be partially explained by the differences in samples employed. For example, perhaps some studies employed student populations from universities with large Native American enrollment. Therefore, studies that have found a positive correlation between ethnic identification and GPA may be a result of the larger number of Native American students. On the other hand, studies that have utilized samples from colleges with predominately Caucasian student populations have found a negative relationship between a high level of cultural identification and GPA.

In addition to the samples being used, another problem with existing literature regarding the impact of culture on academic achievement is that researchers have neglected to separate racial status from cultural identification. Racial status can be defined as an individuals' biological connection with a specific group (e.g., Hispanic,

African American, Native American). On the other hand, cultural identification can be defined as a personal trait and the extent to which a person views him/herself as involved with a particular culture. Investigation into cultural identification allows researchers to examine an individual's personal link to a particular culture. It is an important distinction for research since it is an orthogonal concept, meaning a person can identify with more than one culture (for review, see Oetting, Swaim, & Chiarella, 1998) rather than dichotomously indicating their racial status. Further, examining cultural identification as opposed to racial minority status allows for flexibility in research. Instead of simply indicating the racial group to which a person belongs, investigating cultural identification allows for the examination of multidimensional levels of personal identification with specific cultures.

Examining multidimensional levels of cultural identification is particularly important among Native American populations. There are over 341 federally recognized Native American tribes in the United States (see Moran, Fleming, Somervell, & Manson, 1999). Of these tribes, over 200 Native languages exist and high rates of interracial marriages have occurred. This has resulted in many Native American individuals affiliating with more than one ethnic group. Given the diversity of ethnic affiliation among not only Native American individuals but also non-Native people, the construct of cultural identification has been empirically investigated.

Oetting and Beauvais (1991) developed an assessment instrument that considers the range of cultural differences which exist in Native American populations. The instrument consists of four questions developed to address (a) the extent to which the participant and his/her family followed the lifestyle of a particular ethnic group and (b)

how successful the participant and his/her family have been in that way of life. The questions assess how strongly the participant perceives that he/she is associated with a Native American culture. To incorporate multiple ethnic associations, the authors included questions regarding "the Indian way of life" and "the White way of life." In the process of validating this instrument with Native American youth, Oetting and Beauvais (1991) reported a wide-range of levels of identification with both Caucasian and Native American cultures. In addition, they reported that Native American youth who identified highly with both cultures reported better school adjustment, whereas youth reporting low levels of identification with both cultures had poorer school adjustment. These results reflect the importance of assessing subjective cultural identification as opposed to objective membership in a racial minority group.

Other approaches to examining ethnic identity (i.e., cultural identification) have been proposed. Phinney (1992) developed a questionnaire to assess ethnic identity for individuals who identify with more than one ethnic group. This assessment instrument asks participants to identify the ethnic group to they consider themselves belonging ("In terms of ethnic group, I consider myself to be _____"). Participants then answer specific questions across four dimensions of ethnic identity including (1) self-identification as a group member, (2) ethnic behaviors and practices, (3) affirmation and belonging, and (4) ethnic identity achievement. According to Phinney (1992) self-identification refers to the ethnic group to which an individual associates. Ethnic behaviors and practices refer to an individual's involvement in social and cultural activities with members of the same group. Affirmation and belonging refers to the extent the participant has positive feelings about his/her group and the level to which he/she

feels attached to the group. Finally, ethnic development has to do with the developmental stage an individual is in regarding his/her ethnic identity development. Phinney (1992) proposed the process of ethnic identity development spans across a person's lifetime and varies with experience.

In sum, there is a lack of consensus as to the impact that cultural variables have on academic achievement for Native American students. A major problem with existing studies is that researchers have failed to separate racial minority status from cultural identification. Cultural identification is an important distinction for research on academic achievement because individuals can identify with more than one culture and/or with one culture at varying levels.

Perceived Deprivation

In addition to cultural variables related to academic achievement, environmental variables have also been examined. One environmental variable that has been studied extensively in regard to academic achievement is socioeconomic status (SES). A number of researchers have reported that family SES is positively correlated with academic achievement. For example, Jeynes (2000) reported SES significantly impacted academic achievement in varied family structures. Further, Peng and Wright (1993) reported SES was positively correlated with academic achievement. Typically, studies that examine SES classify participants into three groups including upper-class, middle-class, and lower-class. The majority of such investigations have concluded lower-class individuals are more likely to exhibit poor academic achievement. However, most studies have failed to take into consideration the extent to which individuals from lower SES strata subjectively experience their environment as deprived.

Theories on reactions to perceived deprivation have developed out of general theories of relative deprivation (Tiraboschi & Maass, 1998). Within this model, relative or perceived deprivation occurs when an individual acknowledges that he/she has been deprived of something that should not have been denied. According to Tiraboschi and Maass (1998), perceived deprivation has two components including (1) cognitive: an expectation is violated, and (2) affective: a sense of unfairness, resentment, and dissatisfaction. This theory further specifies the difference between perceived (relative) and absolute deprivation. Absolute deprivation occurs when an individual is in a situation that appears to be deprived (e.g., low SES). In contrast, perceived deprivation occurs when an individual experiences feelings of mistreatment or inadequate reward compared to a certain standard. Therefore, perceived deprivation is not defined by objective disadvantage alone, but is instead defined by the individual's relative perception of deprivation.

According to the perceived deprivation perspective, individuals can be in situations which outside observers may perceive as objectively deprived (e.g., low SES), but the individual may or may not experience the situation as subjectively deprived. Studies reporting an association between low SES and poor academic achievement have assumed that individuals from lower socioeconomic classes also subjectively perceived their situation as deprived. However, in failing to take into account perceived deprivation in addition to SES, researchers have overlooked a potentially important appraisal variable related to motivation and academic achievement.

In a study conducted by Mukerjee, Chatterji, and Gupta (1991), different factors of prolonged deprivation were examined as they impacted the development of

intelligence and academic achievement among a group of 194 adolescent students. Participants ranged in age from 14- to 18-years-old. Deprivation was assessed using the Prolonged Deprivation Scale (Misra & Tripathi, 1977). The scale allows for assessment of 15 environmental aspects including housing condition, home environment, economic sufficiency, food, clothing, educational experiences, childhood experience, rearing experience, parental characteristics, interactions with parents, motivational experiences, emotional experiences, religious experiences, travel and recreation, and miscellaneous sociocultural experiences.

Through factor analyses of the 15 items, the authors reported 3 significant factors in the study. Factor I was comprised of deprivation related to home, clothing, food, housing, condition, economic sufficiency, and parent characteristics. Factor II was comprised of what the authors termed "Deprivation from cultural or recreational activities and experiences." These include levels of satisfaction with psychological needs being met such as interest, power, curiosity, and decision-making, all of which were related to cultural experiences. Factor III correlated with events of childhood, education, emotional, and childhood rearing experiences. These events included deprived interactions with parents, friends, teachers, and participation in environmental activities. Results revealed that while Factor I did not have a significant impact on the development of intelligence for the participants, it did negatively impact academic achievement. For example, when an individual is deprived of necessary food, housing, or clothing, he/she may not attain optimum levels of academic achievement.

Few studies have examined deprivation as it relates to attributional style. Hernandez (1996) examined relationships among SES, perceived deprivation,

attributional style, and academic achievement in a sample of minority and Caucasian college students. She found that although neither SES nor perceived deprivation were related to student GPA in both samples, perceived deprivation was significantly associated with pessimistic causal attributions for minority students; both SES and perceived deprivation were unrelated to causal attributions in the Caucasian sample. Further, SES and perceived deprivation were not related in the minority sample. For Caucasian students, however, these variables were significantly related. Results suggested perceived deprivation may play an important role in determining the types of causal attributions individuals make, particularly for minority college students. Additionally, results indicated that variables other than socioeconomic deprivation shape causal attributions for Caucasian college students. Moreover, although SES and perceived deprivation may be interchangeable for majority group members, the variables demonstrate a fair degree of independence in minority groups.

Another example of the perceived deprivation-attribution link is found in a study by Singh and Nathhawat (2001). The authors examined the relationship between prolonged deprivation and attributional style among 80 adolescent males in India. Using the Prolonged Deprivation Scale (PDS), the authors measured the extent of participants' perceived deprivation across 15 experiential dimensions (e.g., food, clothing, education, etc.). Results indicated that participants who perceived their environment as highly deprived were more likely to attribute negative outcomes to internal and pervasive causes; conversely, they also attributed positive outcomes to external and specific causes compared to low-deprived participants. Thus, the subjective experience of environmental deprivation may negatively impact explanatory style.

In summary, there is evidence that SES and perceived deprivation may impact students differently and research has indicated these variables operate in assorted ways across cultures. In addition, research has suggested a link between perceived deprivation and explanatory style. A major problem with existing studies on SES and academic achievement is that existing studies have failed to examine perceived deprivation reported by the individual as opposed to solely measuring SES. Levels of perceived deprivation are important to investigate as many people from objectively deprived environments (SES) do not subjectively perceive their situation as deprived. Subsequently, that person's motivational and other achievement-related factors may not have been disrupted.

CHAPTER III

THE PRESENT STUDY

Native American students have historically struggled in the academic setting. In addition to academic difficulties, Native Americans have among the lowest levels of median income and highest levels of poverty in the United States. Given this information, it is imperative that researchers explore the mechanisms through which Native Americans can succeed both academically and economically. Unfortunately, there is a general lack of understanding regarding the impact of certain variables on the academic achievement of Native American students. While there is a growing body of literature examining the disparity in academic achievement between Native American and Caucasian students; the findings have been widely variable.

A number of studies examining the impact of cultural identification on academic achievement among minority students have concluded that cultural variables are negatively correlated with academic achievement. However, researchers have failed to distinguish between cultural identification (the individual's affiliation with Native American culture) and Native American minority status, or have attempted to generalize findings derived from samples at predominately majority academic settings (e.g., state universities) to predominately minority settings (e.g., tribal colleges). Both of these are important distinctions, given the diverse backgrounds of Native Americans and the range of potential educational environments to which they may be exposed.

In addition to cultural factors, researchers have investigated the role of SES on academic achievement. The majority of research has reported that lower levels of SES are associated with lower levels of achievement. However, similar to the identity-race distinction, many researchers have failed to distinguish between SES, which is typically determined by income and education level, and the subjective perception of personal deprivation. In other words, considering SES as synonymous with perceived deprivation assumes the variables contributing to the experience of psychological disadvantage (e.g., income and education) are universal across cultural groups. It could be argued that if circumstances (low SES) are not perceived as deprived, the individuals' motivation may not necessarily be negatively impacted. The absence of literature comparing the relative contributions of SES and perceived deprivation to academic achievement make it difficult to understand the influence of these variables. At a conceptual level, both identification with a traditional culture and perceived deprivation can be viewed as ongoing stressors for Native American students. These stressors may negatively influence cognitive functioning, resulting in a pervasive sense of pessimism and subsequently poorer academic achievement.

Over the past several years, researchers have examined the role of explanatory style in academic achievement. Among students in the general population, researchers have reported that pessimistic causal attributions are associated with poorer academic achievement. However, mixed findings have been reported among minority populations. Some researchers (e.g., Hernandez, 1996; Robertson, 1998) have reported that for certain minority groups, including Native Americans, pessimistic causal attributions are associated with higher levels of academic achievement. Despite these preliminary

findings, more empirical work is needed to determine the relationship between explanatory style and academic achievement among Native American students.

The purpose of the present study was to examine several relationships which may impact the academic achievement of Native American college students. Specifically, the current study investigated: (1) explanatory style and academic achievement among Native American and Caucasian college students; (2) the relationship of cultural identification and academic achievement in Native American and Caucasian college students; (3) the relative influence of parent education level (used as an indicator of SES) and perceived deprivation on causal attributions and academic achievement for Native American students compared to Caucasian students; and (4) whether cultural identification and class variables were directly related to academic achievement or if the relationship was mediated by explanatory style.

CHAPTER IV

METHODOLOGY

Participants and Procedure

Participants were 71 Caucasian (16 male; 55 female) and 52 Native American (13 male; 39 female) undergraduate students recruited from Oklahoma State University. Participants were between the ages of 18 and 49 years old (M = 20.73, SD = 3.73). The majority of participants were freshman (37.4%) followed by juniors (21.1%), sophomores (23.6%), with the fewest participants in their senior year of college (17.9%). Native American participants represented a variety of tribes and nations: Cherokee (51.9%), Osage (5.8%), Creek (3.8%), Pawnee (1.9%), and "other" tribes than those listed (36.5%). Native American degree of Indian blood ranged from .0006 to 1.000 (M = .1870, SD = .2315).

Participants were recruited in one of two ways. Native American participants were contacted by electronic mail using addresses provided by the university's academic affairs office. Potential participants received an electronic mail that described a study examining academic achievement and learning styles among university students. Participants were also recruited from undergraduate psychology courses. Participants were asked to partake in a study examining academic achievement and learning styles among university students and were informed of the purpose of the study. Extra credit in their psychology course was offered in exchange for participation. Participants recruited

by electronic mail were told that if they were not enrolled in an undergraduate psychology course, they would be entered into a raffle for various prizes in exchange for participation.

Survey packets were distributed in group sessions conducted by an undergraduate psychology research assistant. Participants were informed participation included completing questionnaires to assess their functioning in school and various learning styles. After giving informed consent to participate in the study, students completed questionnaire packets. Written instructions were given for each questionnaire. Upon completion of the packet, participants were debriefed regarding the purpose of the study.

Instruments

Academic Achievement. Each participant's Spring 2005 grade point average (GPA) was used as an index of his/her level of academic achievement (see Appendix). In addition, each student's cumulative GPA up to the Spring 2005 semester was obtained and used as a baseline index of academic functioning. After obtaining consent for the release of records, cumulative and Spring 2005 GPA's were obtained from the student's transcripts and were averaged on a four-point scale.

Background Questionnaire. The Background Questionnaire is a 12-item survey used to gather demographic (age, race, gender), academic (year in college, difficulty of college studies), and historical information (marital status of parents and number of people in household) (see Appendix). The questionnaire was used in the current study to report demographic information only.

The *Heritage Information Sheet* (HIS) was used to gain information regarding participant heritage. This 4-item measure included the following questions: (1) Do you

hold a Degree of Indian Blood Card, (2) What is your degree of Indian blood, (3) Which Indian tribe(s) do you affiliate yourself with, and (4) Which Indian tribe do you primarily affiliate yourself with? Information from the HIS will be used for descriptive purposes only (see Appendix).

Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992). The MEIM is a 23-item measure of ethnic identity that assesses the extent to which the respondent identifies with a given ethnic group (see Appendix). The MEIM is comprised of three subscales: Affirmation and Belonging, Ethnic Identity Achievement, and Ethnic Behavior. For the purposes of this study, 4 additional items were added to the original Ethnic Behaviors subscales. Those items include; (1) "I frequently engage in activities that are traditional of my culture," (2) "I frequently spend time with people of my same ethnicity," (3) "When growing up, I lived in a community with members of my same ethnic group," and (4) "I can speak the native language of my ethnic group." Items are rated on a Likert-type scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). Higher scores indicate greater ethnic identity. Overall reliability for the 23-item Ethnic Identity scale is good, α =. 81 (Phinney, 1992). In the present study, the MEIM Total Score was used as an index of cultural identification. Internal consistency for the MEIM Total Score was α = .70.

Perceived Deprivation Scale (PDS; Hernandez, 1996). The PDS was adapted from the Prolonged Deprivation Scale (Misra & Tripathi, 1977). The original Prolonged Deprivation Scale was a 96-item self-report instrument designed to measure the extent of deprivation across 15 environmental dimensions. The 13 areas assessed by the adapted PDS include housing, food, clothing, money, health care, transportation, family/parental

support, peer support, religious support, teacher support, extra curricular activities, quality of education, and quality of neighborhood (see Appendix). Participants were asked to rate (on a 6-point scale) their level of perceived deprivation during their upbringing in each of these areas, with higher scores indicating higher levels of perceived deprivation. The summed total score was used to determine overall levels of perceived deprivation. Alpha reliability in the present study was $\alpha = .88$.

Socioeconomic Status (from the PDS; Hernandez, 1996). Level of parent education was used as the indicator of socioeconomic status (SES). Parent education was assessed using a seven-point scale with scores ranging from 1 (representing education at the graduate level) to 7 (representing less than 7 years of schooling). Therefore, lower scores indicate higher levels of education. Participants were asked to provide education information on both parents. Data for the parent with the higher level of education was used as the indicator of SES.

Academic Attributional Style Questionnaire (AASQ; Peterson & Barrett, 1987). The AASQ is a 48-item self-report instrument that assesses participant's causal attributions for negative academic events (see Appendix). The AASQ is an academic revision of the Attributional Style Questionnaire (ASQ; Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982) and was developed to assess explanatory style specific to negative academic events (e.g., "You cannot get all the reading done that your instructor assigns," "You cannot solve a single problem in a set of 20 assigned for homework."). Participants were asked to rate each of the 12 hypothetical negative events on a 7-point scale along internality, stability, and globality dimensions. A composite score was calculated by summing the three dimensions and was used as the index of

academic attributional style. Higher scores indicated a more pessimistic attributional style. Peterson and Barrett (1987) reported good internal consistency for the composite score (α= .84). In the present sample, internal consistency was α = .77.

Beck Depression Inventory--II (BDI-II, Beck, Steer, & Brown, 1996). The BDI-II is a 21-item self-report measure of common symptoms of depression according to the Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (DSM-IV; 1994). Each item lists four statements in increasing severity regarding a symptom of depression (see Appendix). Severity ratings for each depression symptom item ranged from 0 to 3. Higher scores indicate a higher severity of depressive symptomatology. Beck, Steer, Bali, and Ranieri (1996) reported reliability estimates of α = .91. Internal consistency in the present sample was α = .90.

Hypotheses

Hypothesis 1. Consistent with recent research (Hernandez, 1996; Robertson, 1998), but in contrast to the reformulated learned helplessness model, it was anticipated that pessimistic attributions (i.e., internal, stable, and global) for academic events on the AASQ would be associated with higher levels of academic achievement (Spring GPA) for Native American participants, after controlling for cumulative GPA, parent education level, cultural identification, and perceived deprivation.

Hypothesis 1a. Consistent with the reformulated learned helplessness model, it was anticipated that pessimistic attributions for academic events (AASQ) would be associated with lower levels of academic achievement (Spring GPA) for Caucasian participants.

Hypothesis 2. Consistent with existing literature on Native American academic achievement on predominately Caucasian campuses (Hernandez, 1996; Robertson, 1998), it was anticipated that for Native American participants, higher levels of cultural identification (MEIM) would be associated with lower levels of academic achievement (Spring GPA) after controlling for Cumulative GPA.

Hypothesis 2a. It was anticipated that for Caucasian participants cultural identification (MEIM) would be unrelated to academic achievement (Spring GPA), after controlling for Cumulative GPA. This was predicted given the anticipated homogeneity (i.e., restricted range) of Caucasian cultural identification scores.

Hypothesis 3. It was anticipated that for Native American participants higher levels of perceived deprivation would be significantly associated with poorer academic achievement (lower GPA), independent of parent education level.

Hypothesis 3a. It was anticipated that for Caucasian participants lower parent education level would be significantly associated with poorer academic achievement (lower GPA), independently of perceived deprivation.

Hypothesis 4. It was anticipated that for Native American participants higher levels of perceived deprivation would be significantly associated with pessimistic attributions for academic events, independently of parent education level.

Hypothesis 4a. It was anticipated that for Caucasian participants lower parent education level would be significantly associated with pessimistic attributions for academic events, independently of perceived deprivation.

Research Questions

Research Questions 1a and 1b. Because varying levels of cultural identification may influence attributions for academic events leading to differences in academic achievement, explanatory style for academic events (AASQ) was examined as a potential mediator in the cultural identification-academic achievement relationship for both Native American (1a) and Caucasian (1b) participants. A series of hierarchical multiple regression equations were constructed separately for each group, in which Spring GPA was the dependent variable (DV). Determining whether explanatory style for academic events (AASQ) mediated the cultural identity (MEIM)-academic achievement (GPA) relationship involved:

1. Regressing the DV (Spring GPA) on the IV (MEIM),
2. Regressing the DV (Spring GPA) on the potential mediator (AASQ),
3. Regressing the potential mediator (AASQ) on the IV (MEIM), and
4. Regressing simultaneously the DV (Spring GPA) on both the IV (MEIM) and the mediator (AASQ).

To determine whether academic causal attributions mediated this relationship, several criteria must have been met (Baron & Kenny, 1986):

1.) The IV (MEIM) must have been significantly associated with the DV (Spring GPA),

2.) The potential mediator (AASQ) must have been significantly related to the DV (Spring GPA),

3.) The IV (MEIM) must have been significantly associated with the potential mediator (AASQ), and

4.) When the potential mediator (AASQ) and the IV (MEIM) were entered into the equation simultaneously, the mediator must have contributed independent variance to the DV and the IV's influence on the DV must have been significantly reduced. To determine whether this reduction in variance is significant, Sobel's (1982) potential mediation model was used.

Research Questions 2a and 2b. Because varying levels of SES (as measured by the Background Questionnaire) may influence academic explanatory style (AASQ) leading to differences in academic achievement (Spring GPA), explanatory style was examined as a potential mediator in the parent education level-academic achievement relationship for both Native American (2a) and Caucasian (2b) participants. A series of hierarchical multiple regression equations were constructed separately for each group, in which Spring GPA was the dependent variable (DV). Determining whether academic explanatory style (AASQ) mediated the SES-academic achievement relationship involved:

1. Regressing the DV (Spring GPA) on the IV (SES),
2. Regressing the DV (Spring GPA) on the potential mediator (AASQ),
3. Regressing the potential mediator (AASQ) on the IV (parent education level), and
4. Regressing simultaneously the DV (Spring GPA) on both the IV (parent education level) and the mediator (AASQ).

To determine whether academic causal attributions mediated this relationship, several criteria had to be satisfied (Baron & Kenny, 1986):

1.) The IV (parent education level) must have been significantly associated with the DV (Spring GPA),

2.) The potential mediator (AASQ) must have been significantly related to the DV (Spring GPA),

3.) The IV (parent education level) must have been significantly associated with the potential mediator (AASQ), and

4.) When the potential mediator (AASQ) and the IV (parent education level) were entered into the equation simultaneously, the mediator must have contributed independent variance to the DV and the IV's influence on the DV must have been significantly reduced. To determine whether this reduction in variance is significant, Sobel's (1982) mediation model was used.

Research Questions 3a and 3b. Because varying levels of perceived deprivation (PDS) may influence academic explanatory style (AASQ) leading to differences in academic achievement (Spring GPA), explanatory style was examined as a potential mediator in the perceived deprivation-academic achievement relationship for both Native American (3a) and Caucasian (3b) participants. A series of hierarchical multiple regression equations were constructed separately for each group, in which Spring GPA was the dependent variable (DV). Determining whether explanatory style (AASQ) mediated the perceived deprivation-academic achievement relationship involved:

1. Regressing the DV (Spring GPA) on the IV (PDS),
2. Regressing the DV (Spring GPA) on the potential mediator (AASQ),
3. Regressing the potential mediator (AASQ) on the IV (PDS), and

4. Regressing simultaneously the DV (Spring GPA) on both the IV (PDS) and the mediator (AASQ).

To determine whether academic causal attributions mediated this relationship, several criteria had to be met (Baron & Kenny, 1986):

1.) The IV (PDS) must have been significantly associated with the DV(Spring GPA),

2.) The potential mediator (AASQ) must have been significantly related to the DV (Spring GPA),

3.) The IV (PDS) must have been significantly associated with the potential mediator (AASQ), and

When the potential mediator (AASQ) and the IV (PDS) were entered into the equation simultaneously, the mediator must have contributed independent variance to the DV and the IV's influence on the DV had to have been significantly reduced. To determine whether this reduction in variance was significant, Sobel's (1982) mediation model was used.

CHAPTER V

RESULTS

Preliminary Analyses

Preliminary analyses were conducted to explore potential relationships between major study variables. Mean comparisons were conducted between Native American and Caucasian samples (see Table 1 for mean comparisons and standard deviations and Table 2 for descriptive statistics of major variables). Zero-order correlations were also performed between major study variables (Semester GPA, Cumulative GPA, Beck Depression Inventory-II (BDI), Perceived Deprivation Scale (PDS), parent education level, Multicultural Ethnic Identity Measure (MEIM), and Academic Attributional Style Questionnaire (AASQ)) for the entire sample (see Table 3), the Caucasian sample (see Table 4) and among the Native American sample (see Table 5). Results revealed that among Caucasian participants, depression scores were correlated with Semester GPA, Cumulative GPA, and PDS scores. Further, PDS was related to depression. Among Native American participants, depression scores were related to PDS, parent education level, and AASQ.

Primary Analyses

Hypothesis 1. Consistent with recent research (Hernandez, 1996; Robertson, 1998), but in contrast to the reformulated learned helplessness model, it was anticipated that among Native American students, pessimistic attributions (i.e., internal, stable, and

global) for academic events on the AASQ would be associated with higher levels of academic achievement (Spring GPA), after controlling for Cumulative GPA, parent education level, cultural identification (MEIM), depression (BDI), and perceived deprivation (PDS). To test this hypothesis, partial correlations were calculated between AASQ scores and Spring GPA, controlling for Cumulative GPA, parent education level, MEIM, BDI, and PDS scores. Contrary to prediction, results revealed a significant negative association between AASQ scores and Spring GPA (*pr* = -.330, p= .02), indicating that more pessimistic causal attributions were related to poorer academic achievement among Native American participants. Thus, Hypothesis 1 was not supported by the data.

Hypothesis 1a. Consistent with the reformulated learned helplessness model, it was anticipated that pessimistic attributions for academic events (AASQ) would be associated with lower levels of academic achievement (Spring GPA) for Caucasian participants. To test Hypothesis 1a, similar partial correlations were calculated between AASQ scores and Spring GPA, controlling for Cumulative GPA, parent education level, MEIM, BDI, and PDS scores. Results revealed no significant relation between AASQ scores and Spring GPA (*pr* = .021, p= .86). Hypothesis 1a was also not supported by the present data.

Hypothesis 2. Consistent with existing literature on Native American academic achievement on predominately Caucasian campuses (Hernandez, 1996; Robertson, 1998), it was anticipated that for Native American participants, higher levels of cultural identification (MEIM) would be associated with lower levels of academic achievement (Spring GPA), after controlling for Cumulative GPA and BDI. To test this hypothesis,

partial correlations were calculated between MEIM scores and Spring GPA, controlling for Cumulative GPA and BDI. Results revealed no significant association between MEIM scores and Spring GPA (*pr* = -.107, p= .50). Thus, Hypothesis 2 was not supported by the present data.

Hypothesis 2a. It was anticipated that for Caucasian participants, cultural identification (MEIM) would be unrelated to academic achievement (Spring GPA), after controlling for Cumulative GPA and depression. This was predicted given the anticipated homogeneity (i.e., restricted range) of Caucasian cultural identification scores. To test Hypothesis 2a, partial correlations were calculated between MEIM scores and Spring GPA, controlling for Cumulative GPA and BDI. Results revealed a non-significant relation between MEIM scores and Spring GPA (*pr* = .133, p= .30). Therefore, hypothesis 2 was supported by the data.

Hypothesis 3. It was anticipated that for Native American participants, higher levels of perceived deprivation (PDS) would be significantly associated with poorer academic achievement (lower GPA), independently of parent education level. To test this hypothesis, a hierarchical regression equation was constructed in which Spring GPA was the dependent variable. Cumulative GPA and BDI were entered on Step 1; parent education level was entered on Step 2, and PDS was entered on Step 3. Results revealed a significant effect for BDI and Cumulative GPA on Spring GPA in Step 1 of analyses (R^2 = .74, F (2, 49) = 69.40, *p* = <.01). However, Step 2 revealed no significant effect of parent education level on academic achievement (R^2 = .04, FΔ (1, 48) = .80, *p*=.38). Finally, Step 3 analysis revealed no significant effect for PDS on academic achievement

(R^2 = .00, FΔ (1, 47) = .09, *p*=.77) for Native American participants. Therefore, Hypothesis 3 was not supported by the data.

Hypothesis 3a. It was anticipated lower parent education level would be significantly associated with poorer academic achievement (Spring GPA) among Caucasian students, independent of perceived deprivation (PDS). To test this hypothesis, a hierarchical regression equation was constructed in which Spring GPA was the dependent variable. Cumulative GPA and BDI were entered on Step 1 of the equation; PDS was entered on Step 2, and parent education level was entered on Step 3. Results revealed a significant effect for BDI and Cumulative GPA on Spring GPA in Step 1 (R^2 = .78, F (2, 67) = 116.6, *p*=<.01). However, Step 2 revealed no significant relationship between parent education level and academic achievement (R^2 = .01, FΔ (1, 66) = .49, *p*=.49). Finally, Step 3 analysis revealed no significant relation between PDS and academic achievement (R^2 = .00, FΔ (1, 65) = .33, *p*=.57) for Caucasian participants. Therefore, Hypothesis 3a was not supported by the data.

Hypothesis 4. It was anticipated that for Native American participants, higher levels of perceived deprivation (PDS) would be significantly associated with pessimistic attributions for academic events, independently of parent education level. To test Hypothesis 4, a regression equation was constructed in which AASQ was the dependent variable. Parent education level and BDI scores were entered simultaneously into the equation on Step 1, followed by PDS scores on Step 2. Results revealed a significant effect for BDI and parent education level on academic attributional style in Step 1 (R^2 = .31, F (1, 49) = 10.90, *p*=<.01). Step 2 revealed no significant effect of PDS on academic

attributional style (R^2 = .34, FΔ (1, 48) = .03, *p*=.15) among Native American participants. Therefore, Hypothesis 3a was not supported by the data.

Hypothesis 4a. It was anticipated that for Caucasian participants, lower parent education level would be significantly associated with pessimistic attributions for academic events, independently of perceived deprivation. To test Hypothesis 4a, a regression equation was constructed in which AASQ was the dependent variable. PDS and BDI scores were entered simultaneously into the equation in Step 1, followed by parent education level scores in Step 2. Results revealed no significant effect for BDI and PDS on academic attributional style in Step 1 (R^2 = .05, F (2, 68) = 1.70, *p*=.20). Step 2 revealed no significant effect of parent education level on academic attributional style (R^2 = .02, FΔ (1, 67) = 1.62, *p*=.21) among Caucasian participants. Therefore, Hypothesis 4a was not supported by the present data.

Research Questions

Research Questions 1a and 1b. Because varying levels of cultural identification (MEIM) may influence attributions for academic events leading to differences in academic achievement, explanatory style for academic events (AASQ) was examined as a potential mediator in the cultural identification-academic achievement relationship for both Native American (1a) and Caucasian (1b) participants. To determine whether explanatory style mediated the cultural identification-academic achievement relationship, several criteria had to be satisfied (see Baron and Kenny, 1986): (1) the independent variable (MEIM) must be significantly associated with the dependent variable (Spring GPA), (2) the potential mediator (AASQ) must be significantly related to the dependent variable (Spring GPA), (3) the independent variable (MEIM) must be significantly

associated with the potential mediator (AASQ), and (4) when the potential mediator (AASQ) and the independent variable (MEIM) are entered into the equation simultaneously, the mediator must contribute independent variance to the dependent variable (Spring GPA) and the independent variable's influence on the dependent variable must be significantly reduced.

Primary analysis testing Hypothesis 2 revealed no significant effect for cultural identification (MEIM) on academic achievement after controlling for Cumulative GPA for Native American participants. Further, primary analysis testing Hypothesis 2a revealed no significant effect for MEIM on academic achievement after controlling for cumulative GPA and BDI among Caucasian participants. Therefore, the first criterion set forth by Baron and Kenny (1986) to determine whether explanatory style mediated the cultural identification-academic achievement relationship was not satisfied. Therefore, further analyses for research questions 1a and 1b were not conducted.

Research Questions 2a and 2b. Because varying levels of parent education level may influence academic explanatory style (AASQ) leading to differences in academic achievement (Spring GPA), explanatory style was examined as a potential mediator in the parent education level-academic achievement relationship for both Native American (2a) and Caucasian (2b) participants. To determine whether academic causal attributions mediate this relationship, several criteria must be met (Baron & Kenny, 1986): (1) The independent variable (parent education level) must be significantly associated with the dependent variable (Spring GPA), (2) the potential mediator (AASQ) must be significantly related to the dependant variable (Spring GPA), (3) the independent variable (parent education level) must be significantly associated with the potential mediator

(AASQ), and (4) when the potential mediator (AASQ) and the independent variable (parent education level) are entered into the equation simultaneously, the mediator must contribute independent variance to the dependent variable and the independent variable's influence on the dependent variable must be significantly reduced.

Primary analysis testing Hypothesis 4 revealed no significant effect for parent education level on Spring GPA after controlling for cumulative GPA, and depression. Primary analyses testing Hypothesis 4a revealed no significant effect for parent education level on academic achievement after controlling for cumulative GPA and depression. The first criterion for mediation (Baron and Kenny, 1986) in the parent education level-academic achievement relationship was not satisfied. Therefore, additional analyses for research questions 2a and 2b were not conducted.

Research Questions 3a and 3b. Because varying levels of perceived deprivation (PDS) may influence academic explanatory style (AASQ) leading to differences in academic achievement (Spring GPA), explanatory style was examined as a potential mediator in the perceived deprivation-academic achievement relationship for both Native American (3a) and Caucasian (3b) participants. To determine whether academic causal attributions mediate this relationship, several criteria must have been met (Baron & Kenny, 1986): (1) the independent variable (PDS) must be significantly associated with the dependent variable (Spring GPA), (2) the potential mediator (AASQ) must be significantly related to the dependent variable (Spring GPA), (3) the independent variable (PDS) must be significantly associated with the potential mediator (AASQ), and (4) when the potential mediator (AASQ) and the independent variable (PDS) are entered into the equation simultaneously, the mediator must contribute independent variance to the

dependent variable and the independent variable's influence on the dependent variable is significantly reduced.

Primary analysis testing Hypothesis 3 revealed no significant effect for PDS on Spring GPA among Native American participants. Primary analysis testing Hypothesis 3a revealed no significant effect for PDS on academic achievement among Caucasian participants. Therefore, the first criterion for medication was not satisfied. Additional analyses for research questions 3a and 3b were not conducted.

CHAPTER VI

DISCUSSION

The present research explored several potential variables associated with the academic achievement of Native American and Caucasian college students. Four specific hypotheses were proposed: (1) pessimistic explanatory style would be associated with higher levels of academic achievement for Native American participants, whereas pessimistic explanatory style would be associated with lower levels of academic achievement for Caucasian participants, (2) higher levels of cultural identification would be associated with lower levels of academic achievement among Native American participants and would be unrelated among Caucasian participants, (3) higher levels of perceived deprivation would be associated with poorer academic achievement for Native American students, whereas lower levels of socioeconomic status would be related to poorer achievement for Caucasian participants, and (4) higher levels of perceived deprivation would be associated with pessimistic explanatory style among Native American participants, whereas lower levels of socioeconomic status would be related to pessimistic explanatory style among Caucasian participants.

Primary analyses testing Hypothesis 1 revealed significant findings. However, findings were not in the predicted direction. Partial correlations revealed that more pessimistic explanatory style on the Academic Attributional Style Questionnaire (AASQ) was associated with lower levels of academic achievement among Native American

participants. The current results are contrary to existing findings with Native American populations (Hernandez, 1996; Robertson, 1998), but consistent with the reformulated learned helplessness theory. In the current research, increased self-reported pessimistic explanatory style was significantly associated with lower Spring GPA in the Native American sample. Analyses testing Hypothesis 1a, however, failed to reveal a significant relationship between explanatory style and academic achievement among Caucasian participants.

Analyses examining the influence of cultural identification on academic achievement revealed mixed results. Contrary to prediction, the data indicated cultural identification was not related to academic achievement for Native American participants. However, consistent with Hypothesis 2a, partial correlation analysis revealed that cultural identification was unrelated to academic achievement among Caucasian participants. Although Hypothesis 2a was supported by the data, little interpretation is available in light of the absence of significant results in the Native American sample.

Analyses exploring the influence of perceived deprivation and socioeconomic status on academic achievement failed to reveal significant findings among both Native American and Caucasian samples. In the Native American sample, examination of Hypothesis 3 showed that PDS scores had no effect on Spring GPA. In the Caucasian sample, examination of Hypothesis 3a showed that parent education level had no effect on Spring GPA. Similarly, analyses testing Hypothesis 4 and 4a, examining the influence of these variables on explanatory style failed to reveal significant findings among both groups. In the Native American sample, PDS scores were not related to pessimistic

attributional style. Likewise, among the Caucasian participants, parent education level was unrelated to AASQ scores.

Three research questions were proposed to examine explanatory style as a potential mediator in variables related to academic achievement. Analyses testing Hypotheses 1 through 4a revealed the criterion for mediation described by Baron and Kenny (1986) were not met. Therefore, the proposed research questions were not explored in the current research.

The reformulated learned helplessness model proposes that when an untoward event occurs, individuals initiate a causal search to explain the event. In doing so, the answers they formulate reflect causal attributions made by the person to gain understanding of why the event occurred. For example, if a student were to fail a mathematics test, he/she would immediately ask "Why did this happen?" The answer to that question (e.g., "Because I am not very smart and fail at everything" or "Because the test was poorly written") is a reflection of the causal attributions made by the individual. According to the reformulated learned helplessness model, a pessimistic explanatory style consists of attributing negative events to internal, stable, and global causes. This negative style is related to a helpless depressed reaction. Reactions that accompany helplessness include passivity, sadness, anxiety, hostility, and low self-esteem (Peterson & Seligman, 1984). The current research findings are remarkable in that past research (Hernandez, 1996; Robertson, 1998) indicated Native American and other minority students who endorse pessimistic causal attributions for academic events often exhibit higher levels of academic performance. The results of the current research contradict previous empirical work in the area.

The current findings indicated the relationship regarding explanatory style and academic performance among Native American students nearly replicated the classic reformulated learned helplessness model. Specifically, pessimistic explanatory style was associated with poorer academic achievement among Native American participants. Findings among the Caucasian sample also approximated the classic model. The Native American sample performed as the model would suggest in regard to explanatory style and academic achievement, whereas among Caucasian participants, depression played a unique role in predicting GPA independent of explanatory style. Among Native American participants, explanatory style was associated with both depression and GPA, but depression was not correlated with GPA. Conversely, Caucasian participant explanatory style was not associated with depression, but GPA and depression were correlated. Although both samples performed according to the learned helplessness model to varying degrees, depression did not mediate the relationship between explanatory style and GPA in either group. Depression played a distinctive role in each group.

One possible explanation for these differences may be found in diathesis-stress characterizations of depression, which suggest certain vulnerabilities interact with stressors at the individual level to impact depression. Abramson and colleagues (1988) suggested a diathesis-stress view to explain the observation of a certain type of hopelessness depression. This model suggests that negative life events act as stressors and interact with a preexisting diathesis (i.e., pessimistic explanatory style). Abramson and colleagues further posited that this cognitive diathesis is domain specific, with attributions falling in two domains, interpersonal or achievement. Pessimistic causal

attributions of the interpersonal domain are related to situations when an individual is sensitive to personal loss, rejection, or conflict. The achievement domain is related to pessimistic causal attributions in regard to situations when an individual is sensitive to achievement related loss such as perceived failure or goal frustration in areas of work, school, or finances (Spangler, Simons, Monroe, & Thase, 1993). In the current study, it is possible that differences were observed in the relationship between explanatory style, GPA, and depression in the two samples due to difference in domain importance. While speculative, it is conceivable that Native American students do not place the same importance regarding the achievement domain as do Caucasian students. While relationships were observed between explanatory style and depression and between explanatory style and GPA, no relationship was observed between depression and GPA among Native American participants. This suggests depression did not influence Native American student's academic performance, although it did influence explanatory style, which was related to GPA.

Among Caucasian participants, depression was related to GPA, but there was not a relationship between explanatory style and depression. This suggests that depression did not relate to the way Caucasian student's attributed outcome, although depression influenced GPA. This findings could be related to Caucasian student's desire and motivation to succeed in the achievement domain. Perhaps the achievement domain is much more important to Caucasian students compared to Native American students.

Native American participants may not have the same motivation or personal emphasis on academics and achievement compared to the Caucasian participants. Caucasian participants may have a different learning history in which academic

achievement is strongly emphasized. Therefore, when they perform poorly in the achievement domain, they are more likely to be depressed. In contrast, perhaps Native American students do not place as much importance in the academic domain, so depression was not related to lower GPA. In future research, it would be judicious to explore the importance of these explanatory style domains (interpersonal and achievement) across ethnic groups. In the current study, there may have been confounding factors (e.g., such as the importance of academic achievement across groups, family emphasis on achievement, etc.) that would be worthwhile to study in future research.

Similarly, there may have been differences in expectancies for achievement between the two groups in regard to academic performance. According to the original learned helplessness model, expectations play a role in helplessness after repeated presentations of aversive and uncontrollable events. Expectations of success or failure have been reported to mediate the relationship between explanatory style and depression (Peterson & Vaidya, 2001). Platt (1988) found that attributions alone had no effect on GPA, however, the variables of expectancy of academic success and predicted effort required to succeed academically worked as intervening variables to impact GPA. Therefore, it is conceivable that in the current study, participant expectations, which were not assessed, were distinct between Native American and Caucasian participants, consequently influencing the unique role depression demonstrated in the two groups.

The findings of the current research are unexpected given past empirical efforts indicating that Native American student attributions do not adhere to the reformulated learned helplessness model. Although investigative, it may be that previous findings of

ethnic differences in explanatory style and academic achievement were due in part to self-reported GPA's. The self-report approach to obtaining GPA's may have contributed to findings different from the current study. It is possible that findings from previous studies captured the influential role of causal attributions on other perceptions, including self-reported GPA. Perhaps findings from the current study represent a more accurate picture of the relationship between explanatory style and academic achievement due to the objective assessment of academic functioning (i.e., obtaining actual Spring and Cumulative GPA's from the academic affairs office).

Finally, these findings support past research for the reason that results of the current study indicated there may be differences in regard to definitions of success and failure in regard to environmental feedback and subsequent causal attributions. Duda and colleagues (Duda, 1986; Duda & Allison, 1989) have explored definitions of success and failure across cultures. Their research has indicated that definitions of success and failure are in part determined by the cultural values of an individual. Duda and colleagues reported Native American participants were more likely to define success and failure according to their personal views of achievement (e.g., I'll do better than I did last time), whereas Caucasian participants were more likely to emphasize an objective criterion (e.g., I'll do better than others in the class). Success and failure do not seem to be concrete and global variables that apply across cultures. Future research might benefit from addressing these differences in varied cultures.

In addition to explanatory style, previous research has suggested a relationship between cultural identification and academic achievement for Native American students (for review, see Hernandez, 1996; Huffman, Sill, & Brokenleg, 1986; Kerbo, 1981).

Although available findings are mixed, the current research did not reveal a relationship between cultural identification and academic achievement for both Native American and Caucasian participants. A possible explanation of the lack of findings may exist in the instrument used to measure cultural identification. The Multigroup Ethnic Identity Measure (MEIM) was implemented in the current study due to its utilization in previous studies to assess individuals from multi-cultural backgrounds. The MEIM requests that respondents indicate his/her primary ethnic group affiliation before answering successive questions. In the current study, this may have resulted in participants responding according to how they thought the identified ethnic group (e.g., Native American) *should* respond rather than answering accurately according to his/her lifestyle. Because the mean Degree of Indian Blood reported by Native American participants in the current study was less than 20%, the majority of participants conceivably identified with more than one ethnic group. Future researchers would be prudent to choose a cultural identification measure that allows for respondents to identify with more than one ethnic group. One such instrument is the orthogonal cultural identification scale developed by Oetting and Beauvais (1991). This instrument intentionally assesses the range of identification with multiple cultures that often exist in Native American populations. Given the lack of significant findings with respect to cultural identification in the current study, future research with Native American individuals might consider using the orthogonal cultural identification measure, or comparable measure that allows for assessment of identification with more than one primary cultural group.

In addition, in the current research, four additional items were added to the original MEIM Ethnic Behaviors subscales. Those items included; (1) “I frequently

engage in activities that are traditional of my culture," (2) "I frequently spend time with people of my same ethnicity," (3) "When growing up, I lived in a community with members of my same ethnic group," and (4) "I can speak the native language of my ethnic group." It is possible that the addition of these 4 questions to the original MEIM affected our ability to support the hypotheses.

Finally, analyses examining the relationship between class variables (parent education level and PDS) and academic achievement failed to support the proposed hypotheses. Among Native American participants, parent education level and PDS scores were not related to academic achievement or explanatory style. Further, neither parent education level nor PDS were related to Semester GPA or explanatory style for Caucasian participants. It is unclear why these results were observed. Existing research indicates that for Caucasian students, socioeconomic status (SES; examined in this study through parent education level) is correlated with GPA, with lower SES related to lower GPA (for review, see Jeynes, 2000; Peng & Wright, 1993).

Past literature has also indicated that SES and PDS are related variables among Caucasian individuals, suggesting the variables are similar. However, these findings were not supported by the current research. Higher levels of perceived deprivation are related to pessimistic explanatory style in some minority samples (Hernandez, 1996). However, results of the current study failed to reveal significant findings. It is possible the use of the PDS, which assessed perceived deprivation during the participants' upbringing, did not tap into appraisals of current environmental deprivation and how present perceptions may impact cognitive deficits and pessimistic attributional style. Further, parent education level was assessed according to the education level of the parent with the

highest level of education. Past researchers have used more precise measures of SES including the Hollingshead Two Factor Index of Social Position (Hollingshead, 1957). This difference in the assessment of SES along with the assessment of past rather than current depravation, could have contributed to the unexpected findings of the current study.

Strengths and Limitations

There are several important strengths of the present study. First, this study contributes to an area of research that is greatly limited. Numerous studies have examined explanatory style and academic achievement among Caucasian populations (for review, see Peterson & Barrett, 1987; Platt, 1988; Forsterling & Binser, 2002; Nolen-Hoeksema & Girus, 1995; and Schulman et al., 1990); however, few have examined this relationship among Native American students (Hernandez, 1996; Robertson, 1998; Duda and Allison, 1989). The value of the current research is reinforced by the fact that it provides novel findings regarding explanatory style and Native American academic achievement.

Another asset of the current study was the use of standardized measures with demonstrated psychometric properties to assess cultural identification, academic attributional style, and depression. In addition to the demonstrated validity of these measures, they also represent theoretically important variables. The use of valid and reliable measures paired with the examination of theoretically meaningful variables makes this study a valuable component to understanding Native American academic achievement. Similarly, in light of the fact that cumulative GPA accounted for a large

amount of variance in spring GPA, it is striking that primary variables of interest (e.g., explanatory style) still predicted variance beyond what was accounted for by GPA.

A further strength of this study is that cumulative and spring GPA's were obtained from the universities' academic affairs office, whereas past research has relied on self-reported GPA's from participants. Relying on self-reported GPA lends itself to distortion, reactivity, demand characteristics, and subsequently inaccurate findings. The method used in the current study increased the probability that the obtained data was reliable and valid.

Finally, existing literature on Native American student achievement suggests that when compared to Caucasian students, Native American students perform far worse in the academic setting (Gloria & Kurpius, 2001; Kerbo, 1981; Lin, Lacounte, & Eder, 1988). However, findings from the present study indicated Native American participants obtained both semester and cumulative GPA's that were comparable to their Caucasian counterparts. This aspect highlights a strength of Native American participants that is often disregarded in academic achievement literature.

Limitations of the current research should also be considered. The present study relied on a college student population. College students often represent high functioning and high socioeconomic status groups that do not necessarily represent the general population or Native American individuals as a group. The sample consisted of relatively high functioning Native American and Caucasian students enrolled in a 4-year college who had the ability to maintain moderately high GPA's. Therefore, the findings do not represent those participants which might be found in a more diverse high school or community college sample.

Related, due to the recruitment of Native American college students on only one college campus, it should not be assumed that these participants represent all Native American populations. There are numerous Native American Tribes in the United States and considering that participants in the current study identified with only a handful of these Tribes, researchers should use caution when generalizing these findings to other Native American populations.

Despite these limitations, the current research fills a gap assisting researchers in gaining a better understanding of Native American academic achievement in the college setting. More research is needed to gain a more comprehensive understanding of the contributing variables in academic achievement with diverse populations.

Future Research

Existing research exploring the relationship between explanatory style and academic achievement has revealed conflicting findings. The current study, examining the same relationships, produced complicated results for both Native American and Caucasian participants. It is unclear why the current findings were observed. One possible explanation is the current research examined academic performance in one semester of college study. Perhaps the limited time frame did not allow for a more accurate measure of these relationships. More research in this area is warranted. It would be worthwhile to examine the relationship between academic achievement and attributional style across time with Native American and Caucasian participants. This would enable researchers to examine whether a longer period of time would result in different findings.

Similarly, the current research exclusively examined attributional style in regard to academic events. It is possible that explorations into multiple areas of achievement (e.g., interpersonal relationships, sports, career achievement) would provide more information on the relationship between attributional style and academic achievement. While the focus for the current study was academic achievement, it is likely that "failure" in other life domains would have an impact on the individual, which he/she may generalize to academic functioning. Similarly, it may be advantageous to examine differences in expectancies and related causal attributions across ethnic groups.

In addition, this research emphasizes the lack of current empirical consensus regarding the relationship between cultural identification and academic achievement for Native American students. This is a very important relationship to understand. It may be that having a strong tie to the Native American culture is beneficial to Native students but the instruments used to measure this variable are not accurately tapping into the desired construct. Conversely, a strong level of cultural identification with one culture may lead to an inhibited performance in the majority (Caucasian) culture. More research is needed using measurement tools that allow for the examination of cultural identification with multiple groups.

Finally, more research is needed to better understand the relationships between academic achievement, perceived deprivation, socioeconomic class, and explanatory style. Future studies may want to examine these variables through different avenues such as income (or parental income) rather than level of education, and examining current levels of perceived deprivation rather than those experienced in childhood.

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TABLES

Table 1.

Mean Comparisons for Major Variables

	Caucasians *f* M (SD) *f*	Native Americans *f* M (SD)	Total
Gender			
Male	16	13	29
Female	56	39	95
Age	20.14 (2.48)	21.52 (5.17)	20.73 (3.90)
Year in School			
Freshman	29	17	46
Sophomore	19	7	26
Junior	12	15	27
Senior	10	11	21
Graduate	0	1	1
GPASEM	3.32 (.63)	3.12 (.84)	3.23 (.73)
GPACUML	3.21 (.59)	3.10 (.69)	3.16 (.64)
AASTOT	4.39 (.73)	4.52 (.68)	4.44 (.71)
MEITOT	2.82 (.36)	2.86(.45)	2.84 (.40)
BDISum	9.67 (7.67)	9.80 (8.47)	9.72 (7.99)
PDSsum	20.0 (12.14)	22.23 (9.19)	21.00 (11.01)
Parent Education	1.92 (.96)	2.59 (1.15) **	2.21 (1.09)

Note. GPASEM = Spring 2005 semester grade point average; GPACUML = cumulative grade point average; BDIsum = total score of Beck Depression Inventory; PDSsum = total score of Perceived Deprivation Scale; MEIMTOT = total score of Multigroup Ethnic Identity Measure; AASQTOT = Academic Attributional Style Questionnaire total score.

Table 2.

Descriptive Statistics for Major Variables.

	Caucasian M (SD) t	Native American M (SD) *t*
GPASEM	3.32 (.63) 1.47	3.12 (.84) 1.47
GPACUML	3.22 (.59) 1.09	3.10 (.69) 1.09
BDISum	9.77 (7.67) -.016	9.80 (8.47) -.016
PDSSum	19.97 (12.14) –1.12	22.23 (9.18) –1.12
Parent Education	1.90 (1.08) –3.65	2.55 (.77) –3.65
MEIM Total	2.82 (.362) -.539	2.86 (.454) -.539
AASQTOT	4.40 (.732) -.961	4.52 (.683) -.961

Note. GPASEM = Spring 2005 semester grade point average; GPACUML = cumulative grade point average;

BDIsum = total score of Beck Depression Inventory; PDSsum = total score of Perceived Deprivation Scale;

MEIMTOT = total score of Multigroup Ethnic Identity Meaure; AASQTOT = Academic Attributional Style Questionnaire total score.

* $p < .01$ ** $p < .05$.

Table 3.

Zero-order correlations for Entire Sample.

Variable	1	2	3	4	5	6	7
1. GPASEM	-						
2. GPACUML	.858**	-					
3. BDIsum	-.113	-.030	-				
4. PDSsum	-.221*	-.213*	.418**	-			
5. Parent Ed	-.142	-.219*	-.017	.142	-		
6. MEIMTOT	.108	.119	-.129	-.171	-.096	-	
7. AASQTOT	-.124	-.036	.358**	.114	-.073	-.069	-

Note. GPASEM = Spring 2005 semester grade point average; GPACUML = cumulative grade point average; BDIsum = total score of Beck Depression Inventory; PDSsum = total score of Perceived Deprivation Scale; MEIMTOT = total score of Multigroup Ethnic Identity Measure; AASQTOT = Academic Attributional Style Questionnaire total score.

* $p < .01$ ** $p < .05$.

Table 4.

Zero-order Correlation for Caucasian Sample.

Variable	1	2	3	4	5	6	7
1. GPASEM	-						
2. GPACUML	.855**	-					
3. BDIsum	-.277*	-.074	-				
4. PDSsum	.389**	-.327**	.370**	-			
5. Parent Ed	-.128	-.222	-.116	-.003	-		
6. MEIMTOT	.193	.119	-.146	-.219	-.020	-	
7. AASQTOT	.072	.141	.217	.096	-.173	-.030	-

Note. GPASEM = Spring 2005 semester grade point average; GPACUML = cumulative grade point average; BDIsum = total score of Beck Depression Inventory; PDSsum = total score of Perceived Deprivation Scale; MEIMTOT = total score of Multigroup Ethnic Identity Measure; AASQTOT = Academic Attributional Style Questionnaire total score.

* $p < .01$ ** $p < .05$.

Table 5.

Zero-order Correlations for Native American Sample.

Variable	1	2	3	4	5	6	7
1. GPASEM	-						
2. GPACUML	.859**	-					
3. BDIsum	.038	.015	-				
4. PDSsum	.017	-.035	.522**	-			
5. Parent Ed	-.088	-.179	.074	.294*	-		
6. MEIMTOT	.055	.130	-.114	-.133	-.197	-	
7. AASQTOT	-.322*	-.231	.550**	.128	-.034	-.124	-

Note. GPASEM = Spring 2005 semester grade point average; GPACUML = cumulative grade point average; BDIsum = total score of Beck Depression Inventory; PDSsum = total score of Perceived Deprivation Scale; MEIMTOT = total score of Multigroup Ethnic Identity Measure; AASQTOT = Academic Attributional Style Questionnaire total score.

* $p < .01$ ** $p < .05$.

APPENDIX

IRB APPROVAL

Oklahoma State University Institutional Review Board

Date:	Monday, January 24, 2005
IRB Application No	AS0539
Proposal Title:	Class and Cultural Variables, Explanatory Style, and Academic Achievement Among Native American and Caucasian College Students
Reviewed and Processed as:	Expedited

Status Recommended by Reviewer(s): Approved Protocol Expires: 1/23/2006

Principal Investigator(s

Shilo R Shaw
215 North Murray
Stillwater, OK 74078

John M. Chaney
215 N. Murray
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 415 Whitehurst (phone: 405-744-5700, emct@okstate.edu).

Sincerely,

Sue C. Jacobs, Chair
Institutional Review Board

VITA

Shilo Renae Tippett

Candidate for the Degree of

Doctor of Philosophy

Thesis: AN EXAMINATION OF CLASS AND CULTURAL VARIABLES, EXPLANATORY STYLE, AND ACADEMIC ACHIEVEMENT AMONG NATIVE AMERICAN AND CAUCASIAN COLLEGE

Major Field: Clinical Psychology

Biographical:

Education:

B.A., University of Oregon, Eugene, OR, December 1997
M.S., Oklahoma State University, Stillwater, OK, May 2004
Completed requirements for Ph.D., Oklahoma State University, Stillwater, OK, December 2006

Experience:

Worked as a psychology associate in the Psychological Services Center at Oklahoma State University, practicum placements at Cherokee Nation Behavioral Health program, WW Hastings Indian Hospital, Oklahoma City VA Medical Center, Psychology Intern at the Seattle VA Medical Center, Postdoctoral Fellow at the Seattle VA Medical Center.

Professional Memberships:

International Society for Traumatic Stress Studies (ISTSS)
American Psychological Association (APA)

Name: Shilo Renae Tippett Date of Degree: December, 2006

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: AN EXAMINATION OF CLASS AND CULTURAL VARIABLES, EXPLANATORY STYLE, AND ACADEMIC ACHIEVEMENT AMONG NATIVE AMERICAN AND CAUCASIAN COLLEGE

Pages in Study: 77 Candidate for the Degree of Doctor of Philosophy

Major Field: Clinical Psychology

Scope and Method of Study: The purpose of this study was to examine the relationship between several relationships which may impact the academic achievement of Native American college students. This study was designed to investigate (1) explanatory style and academic achievement among Native American and Caucasian college students; (2) the relationship of cultural identification and academic achievement in Native American and Caucasian college students; (3) the relative influence of parent education level and perceived deprivation on causal attributions and academic achievement for Native American students compared to Caucasian students; and (4) whether cultural identification and class variables were directly related to academic achievement or if the relationship was mediated by explanatory style. Participants were 71 Caucasian (16 male; 55 female) and 52 Native American (13 male; 39 female) undergraduate students recruited from Oklahoma State University. After giving informed consent to participate in the study, students completed questionnaire packets.

Findings and Conclusions: Primary analyses testing revealed significant findings. However, findings were not in the predicted direction. More pessimistic explanatory style on the AASQ was associated with lower levels of academic achievement among Native American participants. Analyses testing failed to reveal a significant relationship between explanatory style and academic achievement among Caucasian participants. Contrary to prediction, the data indicated cultural identification was not related to academic achievement for Native American participants. Cultural identification was unrelated to academic achievement among Caucasian participants. No significant findings were found regarding perceived deprivation and socioeconomic status on academic achievement among both Native American and Caucasian samples. PDS scores had no effect on Spring GPA among Native American students. In the Caucasian sample, parent education level had no effect on Spring GPA.

ADVISER'S APPROVAL: John M. Chaney, Ph.D.