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The Effect of Biculturalism on Depression in Northern Plains Native American College Students

Alan H. Storey Jr.

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THE EFFECT OF BICULTURALISM ON DEPRESSION IN NORTHERN PLAINS
NATIVE AMERICAN COLLEGE STUDENTS

by

Alan H. Storey Jr.
Bachelor of Science, University of North Dakota, 1997

A Thesis
Submitted to the Graduate Faculty
of the
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in partial fulfillment of the requirements

for the degree of
Master of Arts

Grand Forks, North Dakota
August
2000
This thesis, submitted by Alan H. Storey Jr. in partial fulfillment of the requirements for the Degree of Master of Arts from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

[Signature]
(Chairperson)

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Order Feuerberg

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Tom Peterson

This thesis meets the standards for appearance, conforms to the style and format requirements of the Graduate School of the University of North Dakota, and is hereby approved.

[Signature]
Dean of the Graduate School

Date

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Department          Psychology

Degree               Master of Arts

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In loving memory of Larry Berger. “He’s not heavy, he’s my Uncle.”
ABSTRACT

The primary purpose of this study was to examine the effect of biculturalism on depression in a proposed sample of 52 Northern Plains Native American College students (32 female, 20 male). This study tested the applicability of the Orthogonal Theory of Biculturalism (Oetting and Beauvais, 1992). Subjects completed the Northern Plains Biculturalism scale (NPBI) and the Beck Depression Inventory-Second Edition (BDI-II). A descriptive analysis, Pearson product moment correlational analysis, independent t-tests, and multiple regression analysis were performed. The multiple regression utilized the two-culture orientation subscales of the NPBI as predictor variables and the total score of the BDI-II as outcome variables. It was predicted that higher scores on both NPBI subscales (Bicultural competence) predicted lower scores on the BDI-II. No significant results were found in this study.
CHAPTER 1
INTRODUCTION

Depression affects many aspects of one's life, from emotional and physiological symptoms to social functioning. What is not well known is the degree depression affects different cultural groups. Additionally, very little is known about the impact of depression on Northern Plains Native Americans attending state-funded universities. Many Native Americans who attend these institutions face more difficulties than their majority culture counterparts. Factors such as racism, differing customs and values, and even unfamiliar surroundings are only a few variables that may cause Native American college students to feel higher levels of depression than majority culture students. McDonald (1992) suggested that cultural stress may adversely affect Indian college students, putting them at higher risk for attrition. Higher levels of anxiety and depression among Native Americans may result in low academic performance, increasing attrition rates and sending them back to their reservations. Native Americans have a smaller chance to enhance their personal lives, living standards, economic status and career opportunities when forced to cope with academic failure. Understanding all aspects of the factors, such as depression, that may contribute to academic failure or success is therefore vital.
DEFINITIONS OF KEY TERMS

Native American/American Indian is described by McDonald, Morton, & Stewart (1993) as belonging to a federally, state, or locally recognized tribe through blood quantum or descendancy, or adoption through a tribal ceremony and living within tribal customs.

Cultural competence is described by LaFromboise, Coleman, & Gerton (1993) as, "a person who has a strong, personal identity, knowledge of and facility with the beliefs and values of the culture, communicates clearly in the language of that specific cultural group, performs the socially sanctioned behaviors, maintains the active social relationships within that cultural group, and negotiates the institutional structures of that culture (p. 396)."

According to the Orthogonal Theory of Biculturalism, an individual's level of bicultural identification may be defined within one of four quadrants (see Figure 1). The first quadrant, Bicultural, would define an individual displaying cultural competence in both cultural domains. The second quadrant, Traditional, is reserved for individuals displaying high degrees of cultural competence in their culture of origin, but low degrees of cultural competence in another. The third quadrant, Marginal, defines an individual with low cultural competence in both realms. The fourth quadrant, Assimilated, is reserved for those displaying high cultural competence in their adopted culture and low competence in their culture of origin.
LITERATURE REVIEW

The Orthogonal Theory of Biculturalism

Oetting and Beauvais (1990) suggests that people will be more successful and well adjusted when they are more culturally competent in both their native and majority culture. These highly bicultural individuals will also display better cognitive, emotional, and behavioral coping skills and strategies. They will participate in cultural activities, have good communication skills, and will be knowledgeable about cultural norms and customs in both cultures (LaFromboise, Coleman, & Gerton, 1993).

Very little research empirically testing the Orthogonal Theory of Biculturalism exists, however, and no research investigating the effects of biculturalism on depression in Native Americans exists. The relationship between biculturalism and depression among Native American college students has therefore not been established.

American Indian College Students

McDonald (1992) developed the Native American College Student Attitude Scale (NACSAS) to determine the degree to which Native American students perceive racism and the possible difficulties associated with forced acculturation that may make college more stressful for them. McDonald (1992) also suggested these factors contribute to the high attrition rate among American Indian college students.

LaFromboise, Coleman, and Gerton (1993) suggest a link between biculturalism and academic success. They reported that Biculturally competent Native American students are typically better adjusted both culturally and academically than their Marginal counterparts. They also suggest that biculturalism may be a main contributor to positive
mental health and physical well-being.

Another issue associated with Native American college students and increased attrition rates is the use of counseling in retention of these students. Unfortunately, according to Price and McNeill, (1992) traditional Native American college students are far less likely to seek counseling than non-traditional Native Americans. The Orthogonal Theory of Biculturalism would suggest therefore, that more Traditional Native American college students may by less likely to seek counseling to overcome these barriers, leading to attrition.

General Cross-cultural Issues

Cultural differences between therapists and clients, as well as teachers and students, may also increase the likelihood that symptoms may be misunderstood or misdiagnosed, or simply not recognized (LaFromboise, 1988). Native American students' achievements and progress, or the lack of it, may also be misunderstood. It is important that majority culture therapists and teachers become as culturally competent and sensitive as possible when working with Native American clients and students. Cross-cultural competence is believed to be critical in properly recognizing symptomology and enhancing treatment plan development when working with those from different ethnic groups. Clinicians and academicians who are more knowledgeable regarding the unique challenges faced by Native Americans will be more successful when assessing, diagnosing, and treating their patients and dealing with their academic needs than their non-culturally competent colleagues (Dana, 1993; Maser & Dignes, 1993; McDonald, Morton & Stewart, 1993).
General Cross-cultural Assessment Issues

Using standardized tests with American Indians is also problematic in that many of the instruments used on Native Americans were standardized using majority culture subjects (Sue & Sue, 1990; Dana, 1993). Therefore, many of these measures are culturally biased against minority groups, particularly Native Americans (Dana, 1993).

Somervell, Beals, Kinzie, Boehnlein, Leung, & Manson, (1993) investigated the performance of the Center for Epidemiological Studies Depression Scale (CES-D) in 120 adult American Indians (64 female, 56 male) in a Northwest Coastal tribe for detecting depressive symptoms. Results suggested somatic complaints and emotional distress were not well differentiated with this population. The results from the CES-D scores could not clearly differentiate depression from Somatoform Disorder. The authors suggested an unclear distinction between somatic and affective items in this particular group of Native Americans, similar to other studies using the CES-D with other minority groups (i.e., Asian-American and Latino groups). Some researchers suggest that comorbidity of somatic complaints and depressive symptomology is common, and in some non-Anglo cultures, normative. A person may express severe depression in conjunction with physical distress, which may in fact be how that person perceives depression (Katon, Kleinman, and Rosen, 1982).

Chapleski, Lamphere, Kaczynski, Lichtenberg, and Dwyer (1997) examined differences in depressive symptomology among urban, rural, off-reservation, and reservation-residing eastern Great Lakes region American Indians age 55 years or older. They utilized the CES-D with 277 subjects in three residential areas (rural n = 80, urban n
developed by Liang, Van Tran, Krause, and Markides (1989) for use with Mexican Americans was both psychometrically and practically superior to the original 20-item version in use with Native Americans. The authors reported that this shortened scale included items more conceptually valid for American Indian samples. They further suggested the research demonstrated the psychometrically robust character of the CES-D Scale. The researchers caution, however, that the three residential locations may have experienced different levels of acculturation due to the different environmental settings. They also concluded that the 12-item scale version appeared to have minimized the effects of these differences, increasing the confidence that the differing levels of depression were real. They further suggested that results indicated factor structure, factor loading, error measurements, and intercorrelations among different factors of the test were different among the groups tested. These statistical differences and interpretations raise the issue that cross cultural competence also includes the ability to properly analyze and interpret data in a culturally appropriate manner.

Curyto, Chapleski, Lichtenberg, Hodges, Kaczynski, and Sobeck (1998) studied 309 elderly Great Lakes American Indians from urban, rural, and reservation settings. Two-thirds of the sample were over age 65. The CES-D was again used to measure depressive symptomology. One finding suggested the prevalence of depression in this sample was similar to the prevalence of depression in other ethnic minority groups. Depression rates among African American elderly as well as older adults in the general population were similar to those in the Native American group when using the CES-D (Stanford & DuBois, 1992). One of the major findings was that urban residence was a
unique and significant predictor of higher levels of depression. This finding is very important, considering that more than half of the Native American population currently resides in urban centers (Burhansstipanov, 1993). Interestingly, most research conducted with American Indian samples is focused on rural areas or reservation settings (Chapleski, 1997). One significant weakness in this study was the failure of the research team to assess for and correlate bicultural orientation with these observed patterns of depressive symptomology. This additional effort would have allowed for an analysis of the degree to which such orientations impact mental health.

Beals, Manson, Keane, and Dick (1991) conducted a study using the CES-D on a group of 605 (373 females, 232 males) American Indian college students and found that the subjects' scores in their study were somewhat higher than those reported in other studies using the CES-D and majority culture college students, but lower than those reported for American Indian high school students. The authors report that their finding reaffirms that endorsement rates decline with age between adolescents and adulthood (Radloff, 1989). They also found that depressed affect and somatic complaints were correlated so highly as to be practically indistinguishable, also reaffirming the notion that non-Western (more specifically, Native American) populations do not differentiate somatic from depressive complaints. These findings may lend support to the theory that different cultures perceive psychopathology categories and symptom patterns in a different manner.

Dion, Gotowiec, and Beiser (1998) compared depression and conduct disorder symptoms between Native and non-Native children as rated by teacher, parent, and
self-reports. They sampled 1,251 Native children in grades 2 and 4 in four different settings across North America and comparison samples of 457 non-Native children. Parents, teachers and children rated children's mental health using the Child Behavior Checklist (CBCL) and the Diagnostic Interview Schedule for Children (DISC). To ensure item appropriateness, the authors utilized community advisory panels at each site who reviewed the questions selected and assessed the comprehensiveness of the item pools for addressing major constructs. The advisory councils contained council members, elders, parents, and school personnel in an effort to make the instruments culturally sensitive. The findings did not support the hypothesis that Native children suffer more psychopathology than their non-Native peers. Only teacher assessments showed the expected relationship. More specifically, the self- and parent ratings on the depression scale of the CBCL were significantly higher for majority culture children than for their Native counterparts, and self- and parent ratings of conduct disorder were indistinguishable. Interestingly, teachers tended to rate Native children higher on both depressive and conduct disorder symptoms than the non-Native students. Also, this study reported that Native children were rated lower on depression symptoms by non-Native teachers in mixed classrooms than by non-Native teachers in predominantly Native classrooms. There were again no differences by classroom mix in teachers' ratings of conduct disorder symptoms in Native children.

Parker, May, Maviglia, Petrakis, Sunde, and Gloyd (1997) examined the utility of the Primary Care Evaluation of Mental Disorders (PRIME-MD) for diagnosing mental disorders in a sample of 100 American Indian adults (66 female, 34 male) who received
health care services at an urban Indian Health Service primary care clinic. They found that the most frequently occurring PRIME-MD diagnosis were probable alcohol abuse/dependence (16%), major depressive disorder (10%), and generalized anxiety disorder (7%). Over 60% of the patients with a PRIME-MD diagnosis who were known to their physician had not been recognized as having a psychiatric disorder prior to the PRIME-MD assessment. It bears reminding that the possibility that cultural differences may have affected symptom reporting among these disorders. As Katon et al. (1982) mentioned, some "somatization" and depressive symptoms are normative for certain cultures, making this problematic. Also, it is important that the professionals have the cultural competence in recognizing these cultural differences in symptom reporting.

It is also suggested that there are cultural differences regarding the concept of depression among culturally diverse groups. Shore and Manson (1981) suggest that increased understanding of the indigenous concepts of depression-like syndromes may help in designing an instrument which will accurately identify depression among Indian individuals. Timpson, McKay, Kakegamic, Roundhead, Cohen, and Matewapit (1988) discusses the complexities of making a diagnosis in a cross-cultural setting, and the need for careful integration of indigenous assessment and treatment methods with professional skills. They mention that while much is made of the different cross-cultural conceptualizations of depression, traditional Indians have described the syndrome in terms not unfamiliar to Western mental health principles. However, at times symptoms may present themselves differently and frequently more culture-specific treatments should be applied.
should be applied.

The Beck Depression Inventory and American Indians

To date, very little research exists investigating the relationship between cultural orientation and depression. No research exists that investigates the psychometric properties of the BDI or the BDI-II with any Native American samples. If indeed Biculturalism is the most significant predictor of positive mental health and life success with Native Americans, understanding the nature of this relationship is crucial.

The scarcity of such information is alarming. Existing literature also fails to explore healthy and non-healthy coping mechanisms and strategies among Native Americans (LaFromboise, 1988; McDonald, 1992). The meager research that does exist may be inappropriate and inaccurate due to the aforementioned lack of cross-cultural knowledge and competence (McDonald, Morton, & Stewart, 1993). Depression is one of the most common mental health problems among contemporary majority culture members, and a great deal of research regarding depression among this group has been and continues to be conducted. Unfortunately, this research can not be automatically and appropriately generalized across cultures.

In conclusion, studying the relationships between bicultural competence and depression among Northern Plains Native American college students may be beneficial for Native American students and patients, majority and minority culture clinicians, and faculty, administrators and staff who work with Native American college students. Most significantly, this study provided the opportunity to study the Orthogonal Theory of Biculturalism on depression with a Native American sample as a first step in that
direction.

Study Hypothesis

This study examined the effects of biculturalism on depression in a sample of Northern Plains Native American college students. It was hypothesized that Native Americans who are more Bicultural recorded lower levels of depression than their less Bicultural (i.e., more Marginal) counterparts.
CHAPTER II

METHODS

Subjects

Fifty-two participants were recruited for this study (32 female, 20 male). Subjects were recruited from the University of North Dakota student population. The mean age of the sample was 29.86 years old (see Table 1). The mean year in college was 3.67, with 1 representing freshmen, 2 representing sophomore, 3 representing junior, 4 representing senior, 5 representing graduates, and 6 representing staff and administrative personal. Forty-four subjects requested $5.00, 1 chose extra-credit, and the remaining 8 chose neither.

The subjects in this study represented the Northern Plains tribes. Northern Plains Native American status was determined through either a) enrollment in a federally recognized tribe, or, b) demonstrable tribal lineage as entered on the "Tribal Affiliation" line on the demographics page.

Procedure

Three subject recruitment efforts were used in this study. The first effort was through mail-out surveys with a return rate of 8.06% (250 mail-outs, 31 returned). The second effort entailed personal interviews in which 20 subjects were recruited. Finally, the third recruitment effort solicited 1 subject through a psychology department undergraduate course at UND.

Materials

The research packet consisted of four items. The first two were an informed
consent form (Appendix A) and a demographic questionnaire (Appendix B). The informed consent form was in accordance with UND IRB suggestions and the American Psychological Association (APA) Code of Ethical and Professional Conduct (APA, 1992). The demographic information page was anonymous in nature and consisted of several items aimed toward eliciting the characteristics and nature of the sample, including age, gender, tribal affiliation, class standing, G.P.A., and major. The third component (Appendix C) was the college version of the Northern Plains Biculturalism Inventory (NPBI; Allen & French, 1994). This scale is a 30-item questionnaire designed to measure levels of cultural identification with both Northern Plains American Indian and European-American cultures. The NPBI was based on the Orthogonal Theory of Biculturalism (Oetting & Beauvais, 1992). The NPBI yields three subscales: American Indian Cultural Identification (AICI), European American Cultural Identification (EACI), and a Language scale (which was not be used in this study). Median scores were calculated and split for each subscale. A high score (which was determined as a score above the calculated median) on the AICI were combined with a low score on the EACI indicated a Traditional Native American, or someone who identified with her/his tribal culture. High EACI and low AICI indicated an Assimilated Native American, or someone who identified with the European-American culture. A high score on both the AICI and the EACI indicated someone who is a Bicultural Native American. Finally, a low score on both the AICI and EACI indicated a Marginal Native American, or someone who had low cultural identification with both cultures.

The fourth component was the Beck Depression Inventory-Second Edition
(BDI-II; Beck, Steer, & Brown, 1996). The BDI-II is a 21-item self-report instrument for measuring depressive symptomology in individuals aged 13 years and older.

An individual’s score on the BDI-II determined the severity of depression. Scores ranging from 0-13 suggested minimal depressive symptoms. Scores ranging from 14-19 suggested mild depression. Scores that range from 20-28 suggested moderate depression, and scores ranging from 29-63 suggested that an individual suffered from severe depression.

The BDI-II was developed for the assessment of depressive symptoms in accordance with the criteria for diagnosing depressive disorders listed in the American Psychiatric Association's (APA) *Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition* (DSM-IV; 1994).

**Data Analysis**

Four data analyses were carried out on the data set. The first was descriptive statistic analyses of all the demographic variables and scale items in order to examine the characteristics of the sample. The second analysis was Pearson product moment correlations conducted between the subscales of the NPBI, the demographic items, and the BDI total score. These correlation coefficients were conducted to assess the magnitude and direction of the relationship between these variables. The third set of analyses consisted of independent t-tests between male and female subjects for the NPBI and BDI-II group mean scores to assess possible gender differences in depression among Northern Plains Native Americans. Lastly, a multiple regression analysis were used to investigate the predictive power of the two NPBI subscale scores for the entire sample on
the scores of the BDI-II to assess Bicultural impacts on depression among Northern Plains Native Americans.

The SPSSx statistical software package were used to enter and analyze the data in this study. All raw data was confidential and coded to ensure subjects' privacy rights and security. All data and completed forms were stored in a secured file cabinet in the researcher's office.
CHAPTER III

RESULTS

Sample Characteristics

There were 32 female subjects and 20 male subjects. The mean age of the subjects was 29.86 (SD = 7.2). The mean grade point average was 3.20. Approximately forty-six percent (i.e., 46.2%) of the subjects were Turtle Mountain Chippewa, 11.5% were Spirit Lake Sioux, 7.7% were Cheyenne River Sioux, 3.8% were Navajo, 3.8% were Standing Rock Sioux, and 3.8% were Three Affiliated Tribes. All other tribal affiliation percentages were 1.9% respectively. 44 subjects chose $5.00 for participation, 1 chose extra-credit payment, and 7 chose neither. Table 1 displays the frequencies of age, gender, tribe, class, and GPA.

The scatter plot (Figure 2) shows the individuals' data points in response to the two NPBI subscales. This scatter plot is in relation to Oetting and Beauvais' Orthogonal Theory of Biculturalism (Figure 1). The first quadrant represents Biculturalism. The second quadrant represents Traditionalism. The third quadrant represents Marginality, and the fourth quadrant represents Assimilation.

Pearson Product Moment Correlation

The Pearson product moment correlational analysis of the two NPBI subscales and the BDI-II total revealed a negative, yet non-significant correlation (see Table 2). A non-significant negative correlation between the two NPBI subscales was also revealed. Non-significant results were revealed between the two NPBI subscales and
G.P.A. Non-significant correlations were also revealed between the two NPBI subscales and age; however there was a negative correlation between the BDI-II total and age. The results suggested as Northern Plains Native American College students increase in age, their scores on the BDI-II decrease.

**Multiple Regression**

The NPBI subscales were not statistically significant combined predictors of depression. Of the two subscales, the EACI showed slightly higher predictive power of depression in this sample, but was not statistically significant (see Table 4).

**Independent T-Tests**

There were no statistically significant mean differences by gender on either the AICI or the EACI subscales on the BDI-II (see Table 3). The Levene's Test for Equality of Variance suggested that there was equal variance across the gender samples significant to the .075 level.
CHAPTER IV

Discussion

With this study, the mean age of the sample was older than average age of majority culture students. There was also a higher representation of female subjects. These results are consistent with other types of research concerning Native American college students (McDonald, 1992; Price et al., 1992). The Native American college samples in similar studies tended to be older than majority culture students, with a majority of Native American students being female.

The results from this study did not support the Orthogonal Theory of Biculturalism on depression, which suggested that those individuals who scored higher on both NPBI subscales would report lower scores on the BDI-II. Conversely, those who scored higher on the Marginal scale would report higher scores on the BDI-II, according to the theory. There were no statistical significances between gender and depression in this sample as well. One unique finding of this study was that there were no statistical significances among gender and depression in this sample even though there were no statistical differences among gender and depression, there was however a wide margin of variability among them. One possible explanation for this finding may be that both male and female Native Americans have similar depressive rates. Another possibility is that the BDI-II is not a culturally appropriate measurement tool for depression with Northern
Plains tribes. Still another possibility may be the poor predictive power of the NPBI subscales.

Another study limitation is that the subjects were solicited primarily during the summer semester. Most Native American college students who may have experienced depressive symptoms may have been missed. It has been theorized that most Native American college students that have problems with depression would be most likely to be found in the fall semester due to a lack of bicultural competence, and also most likely to return to their home settings in the summer sessions. This would also most likely explain the small mail-out return rate and class recruitment.

Cross-cultural research continues to be a much-needed area of psychology today. Unfortunately, few research projects are being conducted investigating the cultural impacts in individuals. Even less research is being done investigating the bicultural impact on minorities. Even though this project yielded non-significant results, more research should be conducted investigating biculturalism on minorities. Furthermore, these non-significant results may suggest methodological problems with the bicultural instrument. Overall, it is theorized that an individual’s level and degree of biculturalism significantly impacts his/her psychological well-being. Further research into these issues therefore should be continued.
APPENDICES
APPENDIX A
INFORMED CONSENT

You are invited to participate in a study that is attempting to examine the effect of biculturalism on depression among Northern Plains Native American college students. During the session you will complete three short questionnaires. The purpose of this study is to increase the understanding of the relationship between biculturalism and depression. The benefits of this research will make non-Native counselors/psychologists more aware of the uses and limitations of assessment instruments with the differing bicultural states that the Native American client may present.

All information is strictly confidential and anonymous. You will be assigned a subject number and at no time will your name be used in the data collection, entry, or analysis processes. The raw data will be stored in a secure file cabinet and data will be destroyed following completion of this project.

You will receive one hour of credit for any psychology course of your choice. If you are not enrolled in any psychology courses, $5.00 will be given for your participation in the research. Of you decide to participate, you may withdraw at any time without penalty.

If you have any further questions regarding this study or related matters, or if in the future you have questions or want to know the results, please contact the investigators. Dr. McDonald is the supervisor of this study and can be reached at 777-4495. Alan Storey Jr. is a second year clinical psychology graduate student as well as the primary investigator, as well as the entire research team can be contacted at the Indians into Psychology Doctoral Education (INPSYDE) program at 777-4497.

I have read the above information and I am willing to agree to participate in this study.

Signature of Subject Date Phone Number

Signature of Investigator Date Phone Number

Please check your preference:

_____ I would like extra credit in a psychology course

NAID, name and address:

Psychology course in which you are (or plan to) enroll:

_____ I would like to receive $5.00 for my participation (give name & address to mail $5 to)

Name and address:
APPENDIX B
Demographic Questionnaire

Please complete the following information as accurately as possible. All information is strictly confidential and anonymous. This form will not include your name, only a subject number and at no time will your name be used in the data collection process. This will ensure that you will not be linked to the information given. Please complete all questions as best as possible. Thank you.

1. Your age: __________

2. Your gender: Male _______ Female _______

3. Tribal Affiliation: _________________________________

4. Current class ranking? (Check only one)
   _____ a. Freshman
   _____ b. Sophomore
   _____ c. Junior
   _____ d. Senior
   _____ e. Graduate
   _____ f. Other (please specify): ________________________

5. What is your current major? __________________________

6. What is your current GPA? ___________________________
APPENDIX C
NORTHERN PLAINS BICULTURALISM SCALE

NPBI (Northern Plains Biculturalism Inventory) College

These questions ask you to describe your attitudes, feelings, and participation in Indian and White culture. Some of the questions may not apply to you. In these cases, one of the possibly answers allows you to note this.

Read each question. Then fill in the number above the answer that seems most accurate for you, as in the example below.

Example: What is your degree of comfort with paper and pencil questionnaires?

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In this example, the person felt moderate but not complete comfort with paper and pencil questionnaires, so filled in 4.

In the case of attitudes and feelings, your first impression is usually correct. We are interested in how much you are influenced by Indian and White culture regardless of your own ethnic background, keeping in mind that no two people have the same background.

1. What is your degree of comfort around White people?

<table>
<thead>
<tr>
<th></th>
<th>1. ___</th>
<th>2. ___</th>
<th>3. ___</th>
<th>4. ___</th>
<th>5. ___</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Some</td>
<td>Great</td>
<td></td>
<td>comfort</td>
</tr>
<tr>
<td></td>
<td>comfort</td>
<td>comfort</td>
<td>comfort</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. What is your degree of comfort around Indian people?

<table>
<thead>
<tr>
<th></th>
<th>1. ___</th>
<th>2. ___</th>
<th>3. ___</th>
<th>4. ___</th>
<th>5. ___</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Some</td>
<td>Great</td>
<td></td>
<td>comfort</td>
</tr>
<tr>
<td></td>
<td>comfort</td>
<td>comfort</td>
<td>comfort</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. How interested are you in being identified with Indian culture?
   1.  
   2.  
   3.  
   4.  
   5.  
   No desire
   Some desire
   Great desire

4. How interested are you in being identified with White culture?
   1.  
   2.  
   3.  
   4.  
   5.  
   No desire
   Some desire
   Great desire

5. How often do you think in English?
   1.  
   2.  
   3.  
   4.  
   5.  
   Rarely or never think in English
   Half the time think in English
   Often or always think in English

6. How often do you think in an American Indian language?
   1.  
   2.  
   3.  
   4.  
   5.  
   I rarely or never think in Indian language
   Half the time think in Indian language
   Often or always think in Indian language

7. How much confidence do you have in a medical doctor?
   1.  
   2.  
   3.  
   4.  
   5.  
   I do not use medical doctors
   Have some faith in medical doctors
   Have strong faith in medical doctors

8. How much confidence do you have in the medicine man/woman?
   1.  
   2.  
   3.  
   4.  
   5.  
   I do not use the medicine man/woman
   Have some faith in the medicine man/woman
   Have strong faith in the medicine man/woman
9. How much is your way of tracing ancestry White (focus on biological relative, descent through father)?
   1. ___  2. ___  3. ___  4. ___  5. ___
   I trace none of my ancestry according to White custom

10. How much is your way of tracing ancestry Indian (cousins same as brothers and sisters, descent more through mother)?
    1. ___  2. ___  3. ___  4. ___  5. ___
    I trace none of my ancestry according to Indian custom

11. How often do you attend Indian religious ceremonies (sweat lodge, Indian Peyote churches, Sundance, vision quest)?
    1. ___  2. ___  3. ___  4. ___  5. ___
    I have never attended Indian religious ceremonies

12. How often do you attend Christian religious ceremonies (Christenings, Baptisms, Church services)?
    1. ___  2. ___  3. ___  4. ___  5. ___
    I never attend Christian religious ceremonies

13. How often do you participate in popular music concerts and dancing?
    1. ___  2. ___  3. ___  4. ___  5. ___
    I never participate in popular concerts/dances
14. How often do you participate in Indian dancing (Indian, Owl, Stomp, Rabbit, etc.)?
   1. ___  2. ___  3. ___  4. ___  5. ___
   I never participate in Indian dances
   I sometimes participate in Indian dances
   I participate in Indian dances frequently

15. To how many social organizations do you belong where a majority of the members are Indian?
   1. ___  2. ___  3. ___  4. ___  5. ___
   I belong to no Indian organizations
   I belong to some Indian organizations
   Several of the organizations I belong to are Indian organizations

16. To how many social organizations do you belong where a majority of the members are non-Indian?
   1. ___  2. ___  3. ___  4. ___  5. ___
   I belong to no non-Indian organizations
   I belong to some non-Indian organizations
   Several of the organizations I belong to are non-Indian organizations

17. How often do you attend White celebrations (White ethnic festivals, parades, barbecues)?
   1. ___  2. ___  3. ___  4. ___  5. ___
   I never attend White celebrations
   I attend some White celebrations
   I attend White celebrations frequently

18. How often do you attend Indian celebrations (Pow-Wows, Wacipi, Indian rodeos, Indian softball games, Indian running events)?
   1. ___  2. ___  3. ___  4. ___  5. ___
   I never attend Indian celebrations
   I attend some Indian celebrations
   I attend Indian celebrations frequently
19. Does anyone in your family speak an American Indian language?

1. ___ 2. ___ 3. ___ 4. ___ 5. ___

They rarely speak Indian
or never speak Indian
They often speak Indian

20. How often does your family use English?

1. ___ 2. ___ 3. ___ 4. ___ 5. ___

They rarely speak English
or never speak English
They often speak English

21. What is your use of English?

1. ___ 2. ___ 3. ___ 4. ___ 5. ___

I rarely speak English
or never speak English
I often speak English

22. Do you speak an American Indian language?

1. ___ 2. ___ 3. ___ 4. ___ 5. ___

I rarely speak Indian
or never speak Indian
I often speak Indian

23. To what extent do members of your family have traditional Indian last names (like “Kills-in-Water”)?

1. ___ 2. ___ 3. ___ 4. ___ 5. ___
None have Indian names
Some have Indian names
All have Indian names

24. To what extent do members of your family have last names that are not traditional Indian last names (like “Smith”)?

1. ___ 2. ___ 3. ___ 4. ___ 5. ___
None have White names
Some have White names
All have White names
25. How often do you talk about White topics and White culture in your daily conversation?

1. ___ 2. ___ 3. ___ 4. ___ 5. ___
I never engage in topics of conversation about Whites and their culture
Sometimes engage in topics of conversation about Whites and their culture
I engage in topics of conversation about Whites and their culture frequently

26. How often do you talk about Indian topics and Indian culture in your daily conversations?

1. ___ 2. ___ 3. ___ 4. ___ 5. ___
I never engage in topics of conversation about Indians and their culture
Sometimes engage in topics of conversation about Indians and their culture
I engage in topics of conversation about Indians and their culture frequently

27. Do you wear White fashion jewelry?

1. ___ 2. ___ 3. ___ 4. ___ 5. ___
I never wear fashion jewelry
I sometimes wear fashion jewelry
I often wear fashion jewelry

28. Do you wear Indian jewelry?

1. ___ 2. ___ 3. ___ 4. ___ 5. ___
I never wear Indian jewelry
I sometimes wear Indian jewelry
I often wear Indian jewelry

29. How Indian is your preference in clothing (dressing in bright colors, clothes with Native artwork)?

1. ___ 2. ___ 3. ___ 4. ___ 5. ___
I never dress according to Indian style
I sometimes dress according to Indian style
I often dress according to Indian style
30. How White is your preference in clothing (dress according to White style and fashion)?

1. ___ 2. ___ 3. ___ 4. ___ 5. ___
I never dress according to White style
I sometimes dress according to White style
I often dress according to White style
Figure 1. Orthogonal Theory of Biculturalism (Oetting & Beauvais, 1990)

EACI refers to European American Cultural Identification

AICI refers to American Indian Cultural Identification
Figure 2. NPBI Subscales Scatterplot

Q1 = Bicultural, Q2 = Traditional, Q3 = Marginal, Q4 = Assimilated

EACI refers to European American Cultural Identification

AICI refers to American Indian Cultural Identification
Table 1

**Descriptive Demographics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>M</th>
<th>SD</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>29.86</td>
<td>7.18</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td>61.5</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td>38.5</td>
</tr>
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<td>College Year</td>
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<td></td>
<td></td>
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<tr>
<td>Freshman</td>
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<td></td>
<td>7.7</td>
</tr>
<tr>
<td>Sophomore</td>
<td></td>
<td></td>
<td>15.4</td>
</tr>
<tr>
<td>Junior</td>
<td></td>
<td></td>
<td>25.0</td>
</tr>
<tr>
<td>Senior</td>
<td></td>
<td></td>
<td>15.4</td>
</tr>
<tr>
<td>Graduate</td>
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<td></td>
<td>26.9</td>
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<tr>
<td>Other</td>
<td></td>
<td></td>
<td>9.6</td>
</tr>
<tr>
<td>GPA</td>
<td>3.2</td>
<td>.6174</td>
<td></td>
</tr>
<tr>
<td>Tribal Affiliation</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Turtle Mountain Chippewa</td>
<td></td>
<td></td>
<td>46.2</td>
</tr>
<tr>
<td>Spirit Lake Sioux</td>
<td></td>
<td></td>
<td>11.5</td>
</tr>
<tr>
<td>Cheyenne River Sioux</td>
<td></td>
<td></td>
<td>7.7</td>
</tr>
<tr>
<td>Three Affiliated Tribes</td>
<td></td>
<td></td>
<td>3.8</td>
</tr>
<tr>
<td>Standing Rock</td>
<td></td>
<td></td>
<td>3.8</td>
</tr>
<tr>
<td>Navajo</td>
<td></td>
<td></td>
<td>3.8</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td>1.9</td>
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</tbody>
</table>

*Note: females, n=32, males, n=20.*
### Table 2

**Pearson Product-Moment Correlational Results Matrix**

<table>
<thead>
<tr>
<th>Item</th>
<th>BDI-II</th>
<th>AICI</th>
<th>EACI</th>
<th>AGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AICI</td>
<td>-.138</td>
<td>-----</td>
<td>-.225</td>
<td>.217</td>
</tr>
<tr>
<td>EACI</td>
<td>-.124</td>
<td>-.225</td>
<td>-----</td>
<td>-.156</td>
</tr>
<tr>
<td>GPA</td>
<td>-.232</td>
<td>.094</td>
<td>-.125</td>
<td>.235</td>
</tr>
</tbody>
</table>

**Note:**  
BDI-II refers to the Beck Depression Inventory, Second Edition.  
AICI refers to American Indian Cultural Identification.  
EACI refers to European American Cultural Identification.  
GPA refers to Grade Point Average.

### Table 3

**Selected Independent T-Test Results**

<table>
<thead>
<tr>
<th>Item</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females</td>
<td>Males</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>AICI</td>
<td>-.353</td>
<td>40.65</td>
</tr>
<tr>
<td>EACI</td>
<td>-.860</td>
<td>35.87</td>
</tr>
<tr>
<td>BDI-II</td>
<td>-.851</td>
<td>7.48</td>
</tr>
</tbody>
</table>

**Note:**  
(1) AICI refers to American Indian Cultural Identification.  
(2) EACI refers to European American Cultural Identification.  
(3) BDI-II refers to the Beck Depression Inventory, Second Edition.

35
Table 4

Multiple Regression Analyses for Variables Predicting Self-Esteem

<table>
<thead>
<tr>
<th>Item</th>
<th>Beta</th>
<th>SE B</th>
<th>P</th>
<th>Part</th>
<th>Partial</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI-II SCORE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AICI</td>
<td>-.175</td>
<td>.107</td>
<td>.239</td>
<td>-.170</td>
<td>-.171</td>
</tr>
<tr>
<td>EACI</td>
<td>-.163</td>
<td>.180</td>
<td>.271</td>
<td>-.159</td>
<td>-.160</td>
</tr>
</tbody>
</table>

**Note.** (1) AICI refers to American Indian Cultural Identification. (2) EACI refers to European American Cultural Identification. (3) BDI-II SCORE refers to the Beck Depression Inventory, Second Edition as dependent variable. (4) Multiple Regression analyses did not approach statistical significance. (5) For the combined predictors (AICI and EACI), $R = .210$, $R^2 = .044$, $F = 1.089$, with $p < .345$. 
REFERENCES


Curyto, K. J., Chapleski, E. E., Lichtenberg, P. A., Hodges, E., Kaczynski, R., &


McDonald, J.D. (1992). Attitudinal factors affecting academic success of...


