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Academic Stress of Native American Undergraduates: The Role of Ethnic Identity, Cultural Congruity, and Self-Beliefs

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Little empirical attention has been given to the academic stress experienced by Native American undergraduates. This study explored the relation of self-beliefs, ethnic identity, and cultural congruity with academic stress among 158 (65 males and 93 females) Native American university undergraduates. Participants completed instruments assessing self-esteem, academic self-efficacy (grade and task), ethnic identity (centrality, public regard, and private regard), cultural congruity, and academic stress. Hierarchical regressions revealed that self-beliefs (specifically task self-efficacy), ethnic identity (particularly public regard), and cultural congruity predicted academic stress, accounting for 23.7% of the variance. Each of these constructs was negatively related to academic stress. These findings are discussed in light of the literature, and ideas for college-based interventions are given.

Keywords: Native Americans, academic stress, cultural congruity, ethnic identity, self-beliefs

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Although college enrollment of Native American students has more than doubled in the last 30 years, Native American students still represent about only 1% of the college student population nationally and experience more college departures and lower academic attainment than any other minority group (National Center for Educational Statistics, 2014). In Arizona, which has a large Native American population and where this study was conducted, although 3% of students enrolled in institutions of higher education are Native American, a third of these students do not persist to graduation (Morrison Institute, 2016). One consequence of lower academic achievement is lower incomes and potential poverty. Poverty rates for Native Americans are approximately 29% nationally and 38% in Arizona (Morrison Institute, 2016). As Shield (2004) noted, "the socioeconomic conditions American Indians face today are devastating" (p. 11) with increased drug and alcohol use, higher depression and suicide, and higher unemployment. It is evident that attention be given to factors related to Native Americans educational success as one means to improving socioeconomic wellbeing. The current study examined one such factor, academic stress, and the personal beliefs and cultural variables potentially related to academic stress among Native American students.

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Academic Stress and Native American Students

Stress, defined by Lazarus and Folkman (1984) as the state of psychological stimulation that challenges an individual's adaptive abilities, can leave one feeling personally incompetent and psychologically challenged, especially if the stressor is ongoing (Jackson & Finney, 2002). Previous studies have estimated that nearly every college student experiences moderate to severe stress (Beiter et al., 2015; Hudd et al., 2000) that is mostly attributed to their academic studies (i.e., assignments, exams, papers). Academic stress, reported to be a moderate or extreme concern for more than three-fourth of the undergraduates in the Beiter et al., (2015) study, has been linked to greater depression (Arbona & Jimenez, 2014; Beiter et al., 2015), poorer academic performance (Friedlander, Reid, Shupak, & Cribbie, 2007; Pritchard & Wilson, 2003) and fewer persistence decisions (Thompson, Johnson-Jennings, & Nitzarim, 2013). Furthermore, academic stress has been found to have a greater negative influence on the academic outcomes of minority students than on those of White students (Zajacova, Lynch, & Espenshade, 2005). Phinney and Haas (2003) reported that among first generation ethnic minority college freshmen stress was attributed to stressors such as finances, family issues, and academic obligations and pressures. When explaining their finding that academic stress (assessed by items such as worrying about repaying loans and getting to class on time) was not directly connected to nonpersistence decisions among Native American undergraduates in the Southwest, Gloria, and Kurpius (2001) concluded that academic stress is a constant for all college students. Using Tinto's (1993) theory of academic persistence as a foundation for their study, Hystad, Eid, Laberg, Johnsen, and Bartone (2009) found that students committed to obtaining their degree demonstrated sufficient exertion to cope with academic stress.

For many students, however, academic stress and its correlates (i.e., academic achievement and depressions; Arbona & Jimenez, 2014), may not be ameliorated by being committed to obtaining a degree. For example, among Native American undergraduates,

culturally relevant noncognitive factors such as perceptions of a negative campus climate (Arbona & Jimenez, 2014; Gloria & Kurpius, 2001; Thompson et al., 2013) and a sense of not belonging (Soria & Alkire, 2015; Strayhorn, Bie, Dorime-Williams, & Williams, 2016) have been found to be related to increased stress and nonpersistence. As early as 1981, Edgewater noted that increased stress was closely linked to the cultural conflict Navajo students experienced in the "white culture" of the university campus (p. 29). Cultural conflict experienced by Native Americans on college campuses, as well as personal characteristics of the student, continues to be a focus for both theorists and researchers concerned with the academic success of students.

The Importance of Self-Beliefs

According to Tinto (1993, 1999), personal and environmental factors need to be considered when exploring student persistence and promoting retention. One personal factor related to undergraduates' academic stress is one's self-beliefs or the messages one gives oneself about oneself. Self-beliefs encompass self-esteem and academic self-efficacy (Gloria, Robinson Kurpius, Hamilton, & Willson, 1999). Self-esteem, one's overall feelings of self-worth (Rosenberg, 1965), has been linked to personal and academic variables (Gloria & Kurpius, 2001; Wilburn & Smith, 2005). For example, in an early study of 791 Native American college students representing 114 tribes (i.e., Navajo, Sioux, etc.), Trimble (1987) found that higher self-esteem was correlated with less resentfulness, powerlessness, isolation, and alienation on campus. According to Lawrence, Ashford, and Dent (2006), when students have higher self-esteem, they assess college barriers and challenges (sources of academic stress) as more manageable and cope with these more effectively. Examining self-esteem, academic stress, and depression among undergraduates, Dixon and Robinson Kurpius (2008) reported that higher self-esteem predicted less perceived academic stress, which then predicted less depression.

Another aspect of self-beliefs linked to student stress is academic self-efficacy (ASE). Bandura (1997) defined self-efficacy as one's belief in one's ability to achieve successfully a desired outcome through the necessary course of action. ASE specifically refers to confidence in one's ability to execute the academic requirements, such as writing papers and studying for exams, necessary to be successful in school (Zajacova et al., 2005). Bandura believed that academic outcomes are based on the effects of self-efficacy beliefs that escalate motivation and persistence to master difficult academic tasks and promote the use of knowledge and skills. Martinez (2014) particularly noted that for Native American students "to succeed in school they must have positive beliefs about their abilities as students" (p. 203).

Considerable research has linked ASE to college grades (e.g., Gore, 2006), academic achievement (e.g., Zajacova et al., 2005), and persistence (e.g., Jackson, Smith, & Hill, 2003). According to Chemers, Hu, and Garcia (2001), not only is ASE correlated with self-beliefs about managing college life adjustments and developing higher academic performance (e.g., *grade self-efficacy*), it is also related to proficiency in managing college stressors such as the daily academic responsibilities of students (e.g., *task self-efficacy*). Students reporting higher academic self-efficacy beliefs related to mastering these tasks tend to work harder, participate more eagerly, pursue challenging goals, devote extensive effort toward accomplishing goals, and persist longer in difficult situations (Pajares, 2003). ASE beliefs have been consistently found to predict academic persistence, including the persistence of Chicanas/Chicanos (Gloria, 1997), African Americans (Gloria et al., 1999), EuroAmerican and racial/ethnic minority students (Rigali-Oiler & Robinson Kurpius, 2013), and Navajos (Rindone, 1988). Studying Native American undergraduates, Gloria and Kurpius (2001) found that higher self-esteem and greater overall ASE were related to fewer nonpersistence decisions. Later research by Thompson et al. (2013) supported the positive relation between self-efficacy and intentions to persist among Native American undergraduates. It is evident that self-beliefs (i.e., self-esteem and academic self-efficacy) should not be ignored in research examining factors such as academic stress that are potentially related to the academic success of Native American students.

The Importance of Cultural Variables

In addition to self-beliefs, cultural variables, particularly one's ethnic identity and perceived cultural fit on campus, are linked to the educational experiences of Native Americans (LaFromboise, et al., 1993; LaFromboise, Trimble, & Mohatt, 1990; Okagaki, Helling, & Bingham, 2009). According to Phinney (1990), ethnic identity reflects one's knowledge and beliefs about one's ethnic culture and an established mindset of commitment and "belongingness to one's ethnic group, and participation in traditional cultural proceedings" (pp. 159–160). Kalsner and Pistole (2003) stressed that one's ethnicity is an essential component of one's overall identity. An early study on ethnic identity of Native American students revealed that students felt isolated, rejected, and anxiety due to the incongruity between their cultural values and those of a dominant Anglo school environment (Giles & Wisconsin University, Milwaukee Midwest National Origin Desegregation Assistance Center, 1985). Since then, research has found that for Native American students a strong identification with their tribal traditional culture allows them to use their ethnic identity as a foundation to balance two cultures simultaneously (biculturalism; LaFromboise, Coleman, & Gerton, 1993) and thus be more likely to succeed and persist in college (Huffman, 2001; Trumbly Lamsam, 2014).

Although Tinto (1999) stressed the importance of a cohesive campus environment for academic persistence, Huffman (2001, 2003) noted that Native American students with a strong sense of tribal ethnic identity might experience cultural conflict with the dominant culture on campus. Such cultural conflict can be a source of stress and lead to poor academic performance and nonpersistence. Examining persistence among 156 Native American students, Thompson et al. (2013) noted that when students reported feeling alienation and separation from their culture and felt marginalized on campus, they did indeed report lower persistence intensions. Being marginalized and experiencing cultural conflict, Native American students often adopt "cultural masks" to hide who they really are during their interactions on campus (Huffman, 1999). Specifically studying perceived cultural incongruity (lack of fit between a student's values and beliefs and those of the majority college campus) of Native American undergraduates, Gloria and Kurpius (2001) found that cultural incongruity was correlated to more nonpersistence decisions. While neither Thompson et al. nor Gloria and Robinson investigated the link

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between cultural congruity and academic stress, it is reasonable to posit that believing that one's values and beliefs are incongruent with those of the majority campus culture can be a source of stress.

In their early research on ethnic identity, Sellers, Rowley, Chavous, Shelton, and Smith (1997) developed an instrument (the Multidimensional Inventory for Black Identity Scale; MIBI) to assess ethnic identity. They posited that ethnic identity has multiple components, including centrality, public regard, and private regard. Centrality was defined as the significance of one's racial/ethnic group to one's identity, public regard as one's perceptions of how others feel about one's race/ethnicity, and private regard as one's emotional and evaluative judgment of one's own race/ethnicity. In 2013, Thompson et al. reported that collective self-esteem and academic self-efficacy were positively related to persistence intentions among Native American college students. Collective self-esteem, defined as the positive perceptions of one's own cultural group that provides a sense of self in the group to which one belongs (Luhtanen & Crocker, 1992), is similar to the Sellers et al., 1997 definition of private regard, which suggests that this aspect of ethnic identity plays a positive role in the academic experiences of Native American students. In contrast, a campus environment that devalues Native Americans can have "an adverse effect on retention of and sense of belonging for minority students" (Marroquin & McCoach, 2014, p. 5) and is reflected in perceptions of low public regard from others on campus. Jackson et al. (2003) noted that Native American students feel offended, marginalized, and isolated as a result of both passive and active racism on campus. When Native American students perceive that others on campus do not value or respect who they are, it is reasonable to conclude that they would report low public regard related to the campus community and report higher stress related to relationships with faculty, staff, and other students on campus—aspects of academic stress.

Purpose of Study and Hypotheses

Given the dearth of research on ethnic identity and related psychosocial and educational outcomes for Native American students (Rivas-Drake et al., 2014) and their continued high attrition from higher education (Thompson et al., 2013), the current study examined whether self-beliefs, cultural congruity, and ethnic identity would be related to academic stress of Native American undergraduates. Based on the literature, two hypotheses were posed: (a) Self-beliefs (self-esteem and academic self-efficacy) will predict academic stress among Native American undergraduates such that more positive self-beliefs will be related to less academic stress; and (b) Ethnic identity (i.e., centrality, private regard, and public regard) and cultural congruity will predict significant variance in academic stress among Native American undergraduates above and beyond that predicted by self-beliefs. Specifically, more positive ethnic identity and greater cultural congruity will be related to less academic stress.

Method

Recruitment and Participants

This study was conducted at a large southwestern university that draws students from the many Native American tribes throughout Arizona and nationally. After institutional review board (IRB) approval was obtained, Native American undergraduates were recruited from Native American Studies courses, Native American Student Support Services, Native American student organizations, and the Native American Science and Engineering Society. The participation rate was approximately 70%. The mean age for the 158 (65 males and 93 females) Native American participants who completed the survey was 22.85 years ($SD = 6.60$). These students represented approximately 10% of the Native Americans enrolled at the university and reflected the tribal affiliations of the Native American student body. The most prevalent tribal membership identified was Navajo ($n = 82$) with other tribes represented by one to six participants. Those who self-identified as biracial were included in the study if their first identity was Native American. Since not everyone answered every demographic question, totals do not consistently sum to 158. High school grade point averages (GPA) was reported by 144 participants ($M = 3.35$, $SD = .54$), and 95 reported their college GPA ($M = 2.95$, $SD = .51$). Approximately half of the participants were freshmen/sophomores and half junior/seniors, with the majority ($n = 81$; 72.3%) being single/never married. For those who reported parental education, the most frequently reported educational attainment categories for fathers were: 27 (17.6%) an 8th grade education; 46 (30.1%) a high school diploma/GED; and 38 (24.8%) some college/technical training. The most frequently reported categories for mothers were: 34 (21.8%) a high school diploma/GED; 42 (26.9%) some college/technical training, and 22 (14.1%) a master's degree.

Instrumentation

First, participants completed a demographic questions about age, gender, year in school, parental educational attainment, high school and current college GPA, and tribal affiliation. They also completed instruments that assessed self-beliefs, ethnic identity, cultural congruity, and academic stress.

Self-beliefs. Two variables comprised self-beliefs: self-esteem and ASE. The 10-item Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) assessed self-esteem. Items such as "I take a positive attitude toward myself" are rated on a 4-point scale. Responses are summed to create a total score that can range from 10 to 40 with higher scores reflecting higher self-esteem. Cronbach's alphas of .84 (Johnson, Robinson Kurpius, Dixon Rayle, Arredondo, & Tovar-Gamero, 2005) and .82 (Gloria & Kurpius, 2001) have been reported for Native American undergraduates. Dixon Rayle, Arredondo, and Robinson Kurpius (2005) reported evidence of predictive validity, and Robinson Kurpius, Payakkakom, Dixon Rayle, Chee, and Arredondo (2008) validated the RSES with EuroAmerican, Latino/a, and Native American freshmen. For the current study, the Cronbach's alpha was .84 (scale $M = 31.76$, $SD = 6.02$).

To obtain a comprehensive measure of ASE, two scales that measured different aspects of ASE were used. The first scale, the Educational Degree Behaviors Self-Efficacy Scale (EDBSES; Lent, Brown, & Larkin, 1987), is comprised of 14 *grade-related* statements such as "Complete English general studies requirements with a B or better". The second scale was the 14-item College Self-Efficacy Inventory (CSEI; Solberg, Hale, Villarreal, & Kavanagh, 1993), with seven items measuring social efficacy and seven items measuring course efficacy. Sample items from the

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CSEI, which focuses on *academic-related tasks*, include "take good class notes" and "ask a professor a question". Both the EDBSES and the CSEI used a 7-point response format that ranged from 1 ("not at all") to 7 ("extremely") confident. For each scale, responses were averaged with higher scores reflecting greater grade or task self-efficacy. Predictive validity has been reported for these scales in that they predicted academic persistence decisions of Native American students (Gloria & Kurpius, 2001) and of racial/ethnic minority students (Rigali-Oiler & Robinson Kurpius, 2013). For this study, the Cronbach's alpha for the EDBSES was .91 (scale $M = 5.67$, $SD = 0.94$) and for the CSEI was .91 (scale $M = 5.38$, $SD = 1.01$).

Ethnic identity. A modified version of the Multidimensional Inventory for Black Identity Scale (MIBI; Sellers et al., 1997) assessed three aspects of ethnic identity (centrality, private regard, and public regard). The MIBI was originally developed to assess perceptions of three personal identity constructs (centrality, regard, and ideology) among Black participants. The 8-item centrality scale measures the degree to which individuals believe that their race/ethnicity is central to their identity, the 6-item private regard scale measures one's emotional and evaluative judgment of one's own race/ethnicity, and the 6-item public regard scale measures one's perceptions of how others may feel about his or her race/ethnicity. Johnson et al. (2005) modified the original MIBI to assess ethnic identity among Euro American, Latino/a, and Native American students. To measure ethnic identity among the Native American students, participants responded to the 20-item MIBI-M with respect to "Native Americans" or their tribal affiliation (e.g., Navajo, Apache). Examples of modified items include: "I have a strong sense of belonging to (___) people" (centrality); "I am proud to be (___)" (private regard); and "In general, others respect (___) people" (public regard). Items are rated from 1 ("strongly disagree") to 7 ("strongly agree"). After reverse coding as needed, responses were summed and averaged for each subscale. Higher scores reflect greater centrality, private regard, and public regard. Johnson et al. (2005) provided evidence of construct and predictive validity for the MIBI-M for EuroAmerican, Latino/a, and Native American undergraduates and also reported acceptable internal consistencies. Evidence of construct validity of the three scales with racial/ethnic minority undergraduates was also provided by Rigali-Oiler and Robinson Kurpius (2013). For the current sample, the Cronbach's alpha for the 8-item centrality scale was .56; however, when two weak items that failed to correlate with the other scale items were deleted, the Cronbach's alpha was more acceptable at .69 (scale $M = 5.31$, $SD = 1.27$). These two items asked about "strong sense of attachment" to other Native American people (item 6) and being Native American a "major factor in social relationships" (item 8). The Cronbach's alpha for private regard was .78 (scale $M = 5.73$, $SD = 1.06$). The Cronbach's alpha for the 6-item public regard scale was .64; however, when a weak item ("Most people consider Native Americans, on the average, to be more ineffective than other racial groups") that did not correlate with any other scale items was deleted, the resulting internal consistency was .71 (scale $M = 4.44$, $SD = 1.01$).

Cultural congruity. The 13-item Cultural Congruity Scale (CCS) assesses minority students' perceptions of the degree to which their cultural values and beliefs fit with those of their college campus (Gloria & Robinson Kurpius, 1996). Items such as "I feel I have to change myself to fit in at school" are rated on a 7-point Likert-type scale. Responses are summed and averaged with higher scores reflecting greater cultural congruity. The authors reported strong internal consistency reliability and evidence of predictive validity for the Chicano students. For this study sample, the Cronbach's alpha was .74 (scale $M = 5.76$, $SD = 0.74$).

Academic stress. Academic stress was assessed by 29-items from the Daily Hassles Index for College Stress (Schafer, 1996). Items such as "constant pressure of studying" and "getting to class on time" were rated on a 5-point scale ranging from "not at all stressful" to "highly stressful". Responses were summed and averaged to form a total score that could range from 1 to 5, with higher scores indicating greater academic stress. Cronbach's alphas of .89 (Dixon & Robinson Kurpius, 2008) and .81 (Gloria et al., 1999) have been reported for this scale. Dixon and Robinson Kurpius (2008) also reported predictive validity for this measure in that it was a strong predictor of depression among undergraduates. For the current study sample, the Cronbach's alpha was .91 (scale $M = 2.74$, $SD = 0.70$).

Procedures

Participants were recruited by the first author, a member of the Navajo Nation, to complete a paper-pencil survey. Most completed the survey during class time and returned it in a sealed envelope. Those who did not complete the survey in class were given an opportunity to complete it outside of the classroom (i.e., home) with the instruction to return it in the envelope to their instructor. Survey packets administered during organization meetings were returned to the organization facilitator. Informed consent for participation was determined by the completion and return of the survey packet. No identifying information was gathered.

Results

Prior to testing the hypotheses, descriptive statistics for the study scales and internal consistencies were calculated. Little's Missing Completely at Random tests were conducted, and p values ranged from .064 to .34, indicating that missing responses to the study instruments were missing at random. Mean imputation was used to replace the missing responses. To determine whether the demographic variables (gender, age, family income, and high school GPA) were potential confounds for academic stress, a multiple regression was calculated. Since they did not account for significant variance in academic stress ($p = .539$); they were not included as controls in the tests of the hypotheses.

To Test H1, the self-belief variables (self-esteem and the two ASE measures) were entered together to predict academic stress. They accounted for 13.6% of the variance in academic stress, ΔF (3, 154) = 8.07, $p < .001$. Examination of the beta weights indicated that only academic-task self-efficacy, $\beta = -.373$, $t = -3.69$, $p < .001$, was a significant predictor of academic stress, thus partially supporting H1 (see Table 1 for zero-order correlations).

Step 2 entered the cultural variables (ethnic identity and cultural congruity) as a cluster to test whether they made a significant contribution to the variance in academic stress above and beyond that of self-beliefs (H2). These four variables accounted for significant additional variance in academic stress, $\Delta R^2 = .101$, ΔF (4,

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Table 1
Correlations and Descriptive Statistics for Study Variables

Variable	1	2	3	4	5	6	7	8	*M*	*SD*
1. Academic stress	—	−.23**	−.37**	−.15	−.24**	−.32**	−.07	−.41**	2.74	.71
2. Esteem		—	.49**	.29**	.24**	.20*	.08	.55**	31.76	6.02
3. Task self-efficacy			—	.58**	.37**	.30**	.15	.34**	5.38	1.01
4. Grade self-efficacy				—	.17*	.16*	.09	.22*	5.67	.94
5. Private regard					—	.40**	.52**	.21	5.58	.91
6. Public regard						—	.13	.36**	4.44	1.02
7. Centrality							—	.03	5.31	1.28
8. Cultural congruity								—	5.76	.88

* $p < .05$. ** $p < .01$. *** $p < .001$.

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150) = 4.98, $p = .001$, with public regard ($\beta = -.16$, $t = -1.99$, $p < .05$) and cultural congruity ($\beta = -.236$, $t = -2.89$, $p = .004$) being significant predictors increasing the accounted for variance in academic stress. Both cultural congruity and public regard were negatively related to academic stress. Cultural factors made a significant contribution to the variance in academic stress above and beyond that of self-beliefs thus supporting H2 (see Table 2 for the results of the regression analyses).

The full model revealed that self-beliefs, ethnic identity, and cultural congruity accounted for 23.7% of the variance in academic stress for these Native American undergraduates. Academic task self-efficacy, public regard, and cultural congruity were the significant predictors (see Table 2). Each was negatively related to academic stress.

Discussion

The finding that self-beliefs accounted for significant variance in academic stress among Native American undergraduates adds support to previous research (Dixon & Robinson Kurpius, 2008; Solberg & Viliarreal, 1997; Torres & Solberg, 2001). In their study with Native American undergraduates, however, Gloria and Kurpius (2001) found that self-esteem and academic self-efficacy were highly correlated and predicted nonpersistence decisions; however, neither predicted academic stress. Although the current study used the same measures as Gloria and Robinson Kurpius, the current study sample was almost twice as large, which may have yielded more robust findings. Also, the current study examined two aspects of ASE and found that the task self-efficacy aspect of ASE impacted academic stress. Even though students rated their ability to get an A or B in their classes quite positively (average rating of 5.67 out of possible 7 points), they were less certain about whether they could do the tasks needed to be successful academically. When these Native American students had more positive perceptions of task self-efficacy, however, they also reported less academic stress.

Table 2
Hierarchical Regression Analyses Predicting Academic Stress

Predictors	ΔR^2	β	ΔF
Step 1	.136		8.07***
Self-esteem		−.075	
Grade self-efficacy		−.093	
Task self-efficacy		−.373***	
Step 2	.101		4.98***
Cultural congruity		−.236**	
Centrality		.147	
Private regard		−.031	
Public regard		−.160*	

* $p < .05$. ** $p < .01$. *** $p < .001$.

Bandura (1997) believed that academic outcomes are based on the effects of self-efficacy beliefs that enhance commitment and motivation to master difficult academic requirements. Tinto (1993) described "commitment" as one's motivation and willingness to succeed in college that can lead to persistence. If one is highly motivated and willing to succeed, one might also have a stronger sense of ASE that results in viewing academic challenges (e.g., talking in class or to peers/instructors, writing papers, and taking exams) more positively and not as stressful. With stronger self-efficacy beliefs, perhaps these students made the necessary cognitive and behavioral adjustments to address academic demands and interactions so that they were perceived as manageable activities and thus less stressful. In their study with indigenous students, Marroquin and McCoach (2014) noted that academic success was impacted by on-campus factors such as faculty and staff interactions and other social factors that can leave students feeling socially isolated. If students lack confidence in these social areas as well as in their ability to do the daily activities/tasks related to academic success, it is not surprising that they report more academic stress.

The finding that less task ASE is related to higher academic stress is part of a pattern in the findings. Specifically, cultural congruity and the public regard aspect of ethnic identity were also negative predictors of academic stress. The academic stress of these Native American students was linked not only to their efficacy about completing school-related tasks, many of which involved social interactions, but also to their beliefs that their values and beliefs did not fit with the campus cultural milieu. This supports previous findings that perceived cultural fit is positively related to academic outcomes for Latino/a students (Gloria & Robinson Kurpius, 1996) and that perceptions of the university environment, including interactions with faculty, staff, and peers, are related to ethnic identity and that these then linked to greater academic persistence for racial/ethnic minority students (Rigali-Oiler & Robinson Kurpius, 2013). It is evident that perceptions of the campus, which included interactions and behaviors of others, influence student academic outcomes. In the current study, academic stress was negatively related to perceptions that the stu-

dents' values and beliefs as Native Americans were not congruent with those of others on the predominantly White campus. A critical factor in academic persistent is feeling that one is a "valued member of the institution" (Tinto, 1999, p. 5); therefore, believing that one does not "fit in" can lead to feelings of not being valued/respected, a sense of isolation, increased academic stress, and nonpersistence.

Perception of low public regard from others on campus was also correlated with greater academic stress. Believing that one's values and beliefs are incongruent with those of others on campus and that others on campus do not have positive perceptions of one's ethnic group may relate to Tinto's (1993) concepts of "incongruence" and "isolation". Tinto described incongruence as the basic disparity or lack of fit between the individual and institution in terms of interests, preferences, and needs, based on one's self-perception of interactions with others such as faculty, staff, and peers. Addressing the isolation on campus that many Native American students feel, Huffman (2001) suggested that students who are transcultural will be less isolated, be involved in more cultural exchange with others, and be more academically successful. Being transcultural is being able to engage in two cultures without assimilation or "relinquishing their Native ways" (p. 19). LaFromboise et al. (1993) posited that Native American students need to have bicultural efficacy—believing that "one can be true to one's ethnic identity and still function in the majority culture" (p. 159). Even though the Native American students in the current study reported low public regard, they also reported a strong sense of private regard for who they were as Native Americans and, to a lesser extent, that being Native was central to their identity. Their private regard and self-esteem were also strongly related. Native American students with a strong sense of cultural identity are less likely to dropout (Martinez, 2014).

Collectively, the study findings suggest that these students have positive feelings about themselves and value being Native American in spite of perceiving less positive public regard from others and feeling that their values and beliefs were not a "fit" on campus. The cultural variables of public regard and cultural congruity involve perceptions and social interactions with others on campus. Both Tinto (1993, 1999) and Huffman (2001) noted that feelings of isolation, which often as a result of lack of positive social interaction, can result in eventual college departure. This is particularly important for Native American students given their high dropout rate from institutions of higher education (Thompson et al., 2013).

A discussion of the findings related to public regard and cultural congruity cannot ignore the current climate of racism and discrimination in our society. Too often, students experience covert or overt hostility and/or verbal racism or harassment related to being a Native American on predominantly White campuses (Larimore & McClellan, 2005). In his qualitative study with Native Americans, Tierney (1992b) quoted a student who reported being "backstabbed" with "racist comments" by Anglo students (p. 80). In a study conducted in the early 2000s, Perry (2002) noted that 40% of Native Americans attending a large university located adjacent to a Native American reservation and having a significant Native American student population reported experiencing ethnoviolence (i.e., racism and prejudice). Trying to explain why Native American students experience more prejudiced behaviors and attitudes than do the more populous minority groups, Jackson et al. (2003) suggested that it is due to Native American students being a minority among minorities. Thus, they may experience prejudicial behaviors from other minority students as well as from White students on campus. Sadly, our society has not moved beyond prejudice, racism, and discrimination. As evidenced by the current study, Native American students still experience prejudice as manifested in low public regard and discrimination as manifested in poor cultural congruence, and these, along with weaker task self-efficacy, impact their academic stress and perhaps persistence to their degree.

Recommendations for Change

While historically it was expected that students had to change to fit in, it is now recognized that the campus community needs to change to help Native American students be successful (Jackson et al., 2003; Larimore & McClellan, 2005). As Tierney (1992b) noted, Native American students often do not know what is expected of them on campus, particularly if they are the first in their family to attend a university. Tribal involvement as early as high school and helping parents understand what their child might experience as a college student (Jackson et al., 2003) can support students to "excel in school, get skills, and education and still be 'Indian' without cultural conflict" (Edgewater, 1981, p. 29). This lack of knowledge could also be addressed by providing incoming students with more concrete information through advising, by pairing them with more advanced students as mentors to share information, facilitate social support, and address isolation (Guillory, 2009; Jackson et al., 2003; Larimore & McClellan, 2005), and by encouraging them to join Native American clubs and other campus groups. Campus services need to be coordinated and comprehensive and also need a designated person to serve as an instigator or catalyst for this coordination (Larimore & McClellan, 2005). Faculty and staff need to be culturally sensitive to Native American students (Tierney, 1992a), which means developing culturally sensitive academic and career guidance programs (Larimore & McClellan, 2005; Guillory, 2009) and having a faculty/staff who is invested in student success (Jackson et al., 2003). This includes cultural relevancy training for faculty and staff and increasing the cultural relevance of the curriculum (Martinez, 2014). For example, Native Americans value cooperation, not competition (Tierney, 1992b). Yet, too many university classrooms are structured around competition, and students are evaluated against their peers' performance. Instead of teacher-focused lectures with one-way learning, classes that are built around learning communities and collaborative learning activities could promote retention and help Native American students connect and gain a sense of belonging by sharing knowledge, learning, and responsibility. As noted by Wilson et al. (2015), a sense of belonging in the context of the classroom is foundational for class engagement and self-efficacy. In a classroom learning community, "student tend to learn and to make friends at the same time" (Tinto, 1999, p. 8), which can decrease feelings of isolation and result in greater public regard from peers as they get to know their Native American classmates better. It is also possible that such learning communities would impact task self-efficacy as each person makes a positive contribution to everyone else's learning. In addition, a more culturally sensitive approach to evaluation would be criterion-referenced grading instead of norm referenced. Students would be evaluated according to how well they master the information rather

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than how they perform in comparison to others. These types of curriculum changes could benefit all students, not just Native American students. ASE needs to be addressed comprehensively through campus-based programs as well as through individually focused efforts targeted to the needs of individual students.

Study Limitations

Several limitations of this study should be noted. First, the measures were self-report and may not be a genuine reflection of the behaviors of this sample. Second, the original internal consistencies for the centrality and public regard ethnic identity measures were weak and became acceptable only after items were deleted from the scales. Whether this changed the validity of the measures is unknown. Third, a majority of the participants were Navajo, which does not reflect the breadth of Native American tribes in higher education across the U.S. Finally, the sample size was relatively small, which limits generalizability and prevented a more sophisticated analyses (such as structural equations modeling) to test a model of academic stress.

Conclusion

In spite of these limitations, the findings from this study add to our understanding of the educational experiences of Native American college students. It is evident that self-beliefs, particularly task self-efficacy, is important for these students and is directly related to their perceived academic stress. Furthermore, how these students thought they were perceived as Native Americans (public regard) and how much they felt that their beliefs and values fit with those of other students on the predominantly White campus (cultural congruity) were also linked with perceived academic stress. Campus wide efforts need to be made to make college campuses and classrooms more inclusive and accepting and encouraging of all students and to foster a sense of belonging. An inclusive university environment can be fostered by ensuring that there are Native American faculty or staff members who can serve as role models and mentors, a diverse student body that includes Native American students as potential role models of academic success, class discussions and learning activities that include Native American topics and culture with all students being encouraged to write or present on related topics, and presentations of Native American art and other creative endeavors and recognition of Native American events on campus. Exposure to or involvement in such programs, events, or activities could result in greater cultural sensitivity and appreciation for Native American values and ways of being among others on campus and increase Native American students' ethnic pride. These suggestions can promote ethnic identity and a sense of cultural congruity and increase self-beliefs, which can lead to reduced academic stress. Perhaps with less academic stress, Native American students will be encouraged to persist to obtain their degrees.

References

Arbona, C., & Jimenez, C. (2014). Minority stress, ethnic identity, and depression among Latino/a college students. *Journal of Counseling Psychology, 61,* 162–168. http://dx.doi.org/10.1037/a0034914

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.

Beiter, R., Nash, R., McCrady, M., Rhoades, D., Linscomb, M., Clarahan, M., & Sammut, S. (2015). The prevalence and correlates of depression, anxiety, and stress in a sample of college students. *Journal of Affective Disorders, 173,* 90–96. http://dx.doi.org/10.1016/j.jad.2014.10.054

Chemers, M. M., Hu, L. T., & Garcia, B. F. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational Psychology, 93,* 55–64. http://dx.doi.org/10.7710/2168-0620.1006

Dixon, S. K., & Robinson Kurpius, S. E. (2008). Depression and college stress among university undergraduates: Do mattering and self-esteem make a difference? *Journal of College Student Development, 49,* 412–424. http://dx.doi.org/10.1353/csd.0.0024

Dixon Rayle, A., Arredondo, P., & Robinson Kurpius, S. E. (2005). Educational Self-Efficacy of college women: Implications for theory, research, and practice. *Journal of Counseling & Development, 83,* 361–366. http://dx.doi.org/10.1002/j.1556-6678.2005.tb00356.x

Edgewater, I. L. (1981). Stress and the Navajo university students. *Journal of American Indian Education, 20,* 25–31.

Friedlander, L. J., Reid, G. J., Shupak, N., & Cribbie, R. (2007). Social support, self-esteem, and stress as predictors of adjustment to university among first-year undergraduates. *Journal of College Student Development, 48,* 259–274. http://dx.doi.org/10.1353/csd.2007.0024

Giles, K. N., & Wisconsin University, Milwaukee Midwest National Origin Desegregation Assistance Center. (1985). *Indian high school dropout: A perspective* Distributed by ERIC Clearinghouse.

Gloria, A. M. (1997). Chicana academic persistence: Creating a university-based community. *Education and Urban Society, 30,* 107–121. http://dx.doi.org/10.1177/0013124597030001007

Gloria, A. M., & Kurpius, S. E. (2001). Influences of self-beliefs, social support, and comfort in the university environment on the academic nonpersistence decisions of American Indian undergraduates. *Cultural Diversity and Ethnic Minority Psychology, 7,* 88–102. http://dx.doi.org/10.1037/1099-9809.7.1.88

Gloria, A. M., & Robinson Kurpius, S. E. (1996). The validation of the cultural congruity scale and the university environment scale with Chicano/a students. *Hispanic Journal of Behavioral Sciences, 18,* 533–549. http://dx.doi.org/10.1177/07399863960184007

Gloria, A. M., Robinson Kurpius, S. E., Hamilton, K. D., & Willson, M. S. (1999). African American students' persistence at a predominantly white university: Influence of social support, university comfort, and self-beliefs. *Journal of College Student Development, 40,* 257–267.

Gore, P. A., Jr. (2006). Academic self-efficacy as a predictor of college outcomes: Two incremental validity studies. *Journal of Career Assessment, 14,* 92–115. http://dx.doi.org/10.1177/1069072705281367

Guillory, R. M. (2009). American Indian/Alaska Native college student retention strategies. *Journal of Developmental Education, 33,* 12–21, 38–39.

Hudd, S. S., Dumlao, J., Erdmann-Sager, D., Murray, D., Phan, E., Soukas, N., & Yokozuka, N. (2000). Stress at college: Effects on health habits, health status and self-esteem. *College Student Journal, 34,* 217–227.

Huffman, T. (1999). *Cultural masks: Ethnic identity and American Indian higher education*. Morgantown, WV: Stone Creek Press.

Huffman, T. (2001). Resistance theory and the transculturation hypothesis as explanations of college attrition and persistence among culturally traditional Native American students. *Journal of Native American Education, 40,* 1–23.

Huffman, T. (2003). A comparison of personal assessments of the college experience among reservation and nonreservation Native American students. *Journal of Native American Education, 42,* 1–16.

Hystad, S. W., Eid, J., Laberg, J. C., Johnsen, B. H., & Bartone, P. T. (2009). Academic stress and health: Exploring the moderating role of personality hardiness. *Scandinavian Journal of Educational Research, 53,* 421–429. http://dx.doi.org/10.1080/00313830903180349

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This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Jackson, A. P., Smith, S. A., & Hill, C. L. (2003). Academic persistence among Native American college students. *Journal of College Student Development, 44,* 548–565. http://dx.doi.org/10.1353/csd.2003.0039

Jackson, P. B., & Finney, M. (2002). Negative life events and psychological distress among young adults. *Social Psychology Quarterly, 65,* 186–201. http://dx.doi.org/10.2307/3090100

Kalsner, L., & Pistole, M. C. (2003). College adjustment in a multiethnic sample: Attachment, separation-individuation, and ethnic identity. *Journal of College Student Development, 44,* 92–109. http://dx.doi.org/10.1353/csd.2003.0006

LaFromboise, T., Coleman, H. L. K., & Gerton, J. (1993). Psychological impact of biculturalism: Evidence and theory. *Psychological Bulletin, 114,* 395–412. http://dx.doi.org/10.1037/0033-2909.114.3.395

LaFromboise, T. D., Trimble, J. E., & Mohatt, G. V. (1990). Counseling intervention and American Indian tradition an integrative approach. *The Counseling Psychologist, 18,* 628–654. http://dx.doi.org/10.1177/0011000090184006

Lamsam, T. T. (2014). A cultural contracts perspective: Examining American Indian identity negotiations in academia. *Journal of Cultural Diversity, 21,* 29–35.

Larimore, J. A., & McClellan, G. S. (2005). Native American student retention in U.S. postsecondary education. *New Directions for Student Services, 109,* 17–31. http://dx.doi.org/10.1002/ss.150

Lawrence, J., Ashford, K., & Dent, P. (2006). Gender differences in coping strategies of undergraduate students and their impact on self-esteem and attainment. *Active Learning in Higher Education, 7,* 273–281. http://dx.doi.org/10.1177/1469787406069058

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer Pub.

Lent, R. W., Brown, S. D., & Larkin, K. C. (1987). Comparison of three theoretically derived variables in predicting career and academic behavior: Self-efficacy, interest congruence, and consequence thinking. *Journal of Counseling Psychology, 34,* 293–298. http://dx.doi.org/10.1037/0022-0167.34.3.293

Luhtanen, R., & Crocker, J. (1992). A collective self-esteem scale: Self-evaluation of one's social identity. *Personality and Social Psychology Bulletin, 18,* 302–318. http://dx.doi.org/10.1177/0146167292183006

Marroquin, C. A., & McCoach, D. B. (2014). *Measuring cultural integrity through the lens of transculturation: Psychometric properties of the North American Indigenous College Students Inventory (NAICSI)*. Retrieved from https://s3.amazonaws.com/academia.edu.documents/33251611/marroquin.aera.2014.pdf?

Martinez, D. (2014). School culture and American Indian educational outcomes. *Procedia: Social and Behavioral Sciences, 116,* 199–205. http://dx.doi.org/10.1016/j.sbspro.2014.01.194

Maxwell Johnson, T., Robinson Kurpius, S. E., Dixon Rayle, A., Arredondo, P., & Tovar-Gamero, Z. G. (2005). The multidimensional inventory of black identity: Its use with Euro-American, Latino, and Native American undergraduates. *Measurement and Evaluation in Counseling and Development, 38,* 92–103. http://dx.doi.org/10.1080/07481756.2005.11909771

Morrison Institute. (2016). *Arizona minority student progress report 2016: The transformation continues*. Retrieved from https://morrisoninstitute.asu.edu/sites/default/files/content/products/16%20MSRP%20Report/pdf

National Center for Educational Statistics. (2014). *Bachelor's degrees conferred by postsecondary institutions, by race/ethnicity and sex of student: Selected years, 1976–77* through 2012–13.

Okagaki, L., Helling, M. K., & Bingham, G. E. (2009). Native American college students' ethnic identity and beliefs about education. *Journal of College Student Development, 50,* 157–176. http://dx.doi.org/10.1353/csd.0.0060

Pajares, F. (2003). Self-efficacy beliefs, motivation, and achievement in writing: A review of the literature. *Reading & Writing Quarterly, 19,* 139–158. http://dx.doi.org/10.1080/10573560308222

Perry, B. (2002). Native American victims of campus ethnoviolence. *Journal of American Indian Education, 41,* 35–55.

Phinney, J. S. (1990). Ethnic identity in adolescents and adults: Review of research. *Psychological Bulletin, 108,* 499–514. http://dx.doi.org/10.1037/0033-2909.108.3.499

Phinney, J. S., & Haas, K. (2003). The process of coping among ethnic minority first-generation college freshmen: A narrative approach. *The Journal of Social Psychology, 143,* 707–726. http://dx.doi.org/10.1080/00224540309600426

Pritchard, M. E., & Wilson, G. S. (2003). Using emotional and social factors to predict student success. *Journal of College Student Development, 44,* 18–28. http://dx.doi.org/10.1353/csd.2003.0008

Rigali-Oiler, M., & Robinson Kurpius, S. E. (2013). Promoting academic persistence among Racial/Ethnic minority and European American freshman and sophomore undergraduates: Implications for college counselors. *Journal of College Counseling, 16,* 198–212. http://dx.doi.org/10.1002/j.2161-1882.2013.00037.x

Rindone, P. (1988). Achievement motivation and academic achievement of Native American students. *Journal of Native American Education, 28,* 1–8.

Rivas-Drake, D., Seaton, E. K., Markstrom, C., Quintana, S., Syed, M., Lee, R. M., . . . the Ethnic and Racial Identity in the 21st Century Study Group. (2014). Ethnic and racial identity in adolescence: Implications for psychosocial, academic, and health outcomes. *Child Development, 85,* 40–57. http://dx.doi.org/10.1111/cdev.12200

Robinson Kurpius, S. E., Payakkakom, A., Dixon Rayle, A., Chee, C., & Arredondo, P. (2008). The appropriateness of using three measures of self-belief with Euro-American, Latino/a, and Native American College Freshmen. *Journal of Multicultural Counseling and Development, 36,* 2–14. http://dx.doi.org/10.1002/j.2161-1912.2008.tb00065.x

Rosenberg, M. (1965). *Society and the adolescent self-image.* Princeton, NJ: Princeton University Press. http://dx.doi.org/10.1515/9781400876136

Schafer, W. E. (1996). *Stress management for wellness* (3rd ed.). Fort Worth, TX: Harcourt Brace Jovanovich.

Sellers, R. M., Rowley, S. A. J., Chavous, T. M., Shelton, J. N., & Smith, M. A. (1997). Multidimensional inventory of black identity: A preliminary investigation of reliability and construct validity. *Journal of Personality and Social Psychology, 73,* 805–815. http://dx.doi.org/10.1037/0022-3514.73.4.805

Shield, R. W. (2004). The retention of indigenous students in higher education: Historical issues, federal policy, and indigenous resilience. *Journal of College Student Retention, 6,* 111–127. http://dx.doi.org/10.2190/HWKH-8LC1-WP90-45K0

Solberg, V. S., Hale, J. B., Villarreal, P., & Kavanagh, J. (1993). Development of the college stress inventory for use with Hispanic populations: A confirmatory analytic approach. *Hispanic Journal of Behavioral Sciences, 15,* 490–497. http://dx.doi.org/10.1177/07399863930154004

Solberg, V. S., & Viliarreal, P. (1997). Examination of self-efficacy, social support, and stress as predictors of psychological and physical distress among Hispanic college students. *Hispanic Journal of Behavioral Sciences, 19,* 182–201. http://dx.doi.org/10.1177/07399863970192006

Soria, K., & Alkire, B. (2015). *Elevating Native American college students' sense of belonging in higher education, ACPA College Student Education International*. Retrieved from http://www.myacpa.org/article/evlevating-native-american-college-students-sense-belonging-higher-education

Strayhorn, T. L., Bie, F., Dorime-Williams, M. L., & Williams, M. S. (2016). Measuring the influence of Native American college students' interaction with diverse others on sense of belonging. *Journal of American Indian Education, 55,* 49–73. http://dx.doi.org/10.5749/jamerindieduc.55.1.0049

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Thompson, M. N., Johnson-Jennings, M., & Nitzarim, R. S. (2013). Native American undergraduate students' persistence intentions: A psychosociocultural perspective. *Cultural Diversity and Ethnic Minority Psychology, 19,* 218–228. http://dx.doi.org/10.1037/a0031546

Tierney, W. G. (1992a). An anthropological analysis of student participation in college. *The Journal of Higher Education, 63,* 603–618. http://dx.doi.org/10.2307/1982046

Tierney, W. G. (1992b). *Official encouragement, institutional discouragement: Minorities in Academe—The Native American Experience*. Norwood, NJ: Ablex Publishing Corporation.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago, IL: University of Chicago Press.

Tinto, V. (1999). Taking student success seriously: Rethinking the first year of college. *NACADA Journal, 19,* 5–9. http://dx.doi.org/10.12930/0271-9517-19.2.5

Torres, J. B., & Solberg, V. S. (2001). Role of self-efficacy, stress, social integration, and family support in Latino college student persistence and health. *Journal of Vocational Behavior, 59,* 53–63. http://dx.doi.org/10.1006/jvbe.2000.1785

Trimble, J. E. (1987). Self-perception and perceived alienation among American Indians. *Journal of Community Psychology, 15,* 316–333. http://dx.doi.org/10.1002/1520-6629(198707)15:3<316::AID-JCOP2290150305>3.0.CO;2-E

Wilburn, V. R., & Smith, D. E. (2005). Stress, self-esteem, and suicidal ideation in late adolescents. *Adolescence, 40,* 33–45.

Wilson, D., Jones, D., Bocell, F., Crawford, J., Kim, M. J., Veilleux, N., . . . Plett, M. (2015). Belonging and academic engagement among undergraduate STEM students: A multi-institutional study. *Research in Higher Education, 56,* 750–776. http://dx.doi.org/10.1007/s11162-015-9367-x

Zajacova, A., Lynch, S. M., & Espenshade, T. J. (2005). Self-efficacy, stress, and academic success in college. *Research in Higher Education, 46,* 677–706. http://dx.doi.org/10.1007/s11162-004-4139-z

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