Factors Related to Academic Stress and Persistence Decisions of Diné College Students

by

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ABSTRACT

Native Americans reported the least number of degree completion than any other population in the United States. Native American students experience multiple challenges while in college making them a high-risk population for college departure. This study used two hierarchical multiple regression to explore the relationship between non-cognitive factors (financial concerns, family support for education, cultural involvement, ethnic identity, academic self-efficacy) with both academic stress and academic persistence decisions from a combined sample of 209 Diné college students attending two tribal colleges on the Navajo reservation. Two-week test-retest reliabilities were calculated for three scales: family support for education, financial concerns, and Dine' cultural involvement. The Multidimensional Inventory of Black Identity Scale was modified to measure two facets of ethnic identity (centrality and private regard) for Diné students. Academic Self-Efficacy was measured by the College Self-Efficacy Inventory. The Daily Hassles Index for College Stress was used to measure academic stress and the Persistence/Voluntary Dropout Decisions Scale was measured academic persistence decisions. Due to its suppression effect on the relation of private regard and academic stress, centrality was not included in the hierarchical regression predicting academic stress; however, it was included in the prediction of academic persistence decisions. Diné students reported high scores for family support for education that suggested that generally the students at Dine' College perceived that their families as being supportive and encouraging their efforts to get their college degree. In the hierarchical regression predicting academic stress, in step one more cultural involvement and fewer financial concerns predicted less academic stress. In the final model, only fewer financial concerns

i

and greater academic self-efficacy predicted less academic stress. In the hierarchical regression predicting academic persistence decisions, private regard and academic self-efficacy were significant, positive predictors of persistence decisions. These findings are discussed in light of the role counseling psychologists can play in addressing financial concerns, ethnic identity, and academic self-efficacy among Dine' students in order to decrease their academic stress and increase their positive decisions about staying in school.

DEDICATION

"I'm not saying I will change the world, but I will guarantee you that I will spark the brain that we will change the world" – 2pac.

I dedicate this paper to my son Eelyn, I am blessed to be your father and may all your dreams come true, I love you son. I dedicate this to my parents, Evelyn and Eddie and my siblings Genevieve, Lorraine, Marvin and Eugene, thank you for all the support and love.

This paper is also dedicated to the Diné Nation, I am proud to be Diné and may the Holy Ones continue to bless the Diné Nation. Glad to be part of the change in improving the lives of the Native Americans and others.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

THE PROBLEM PERSPECTIVE

The estimated total of American Indians/Alaskan Natives (AIAN) in the United

States is 2.4 million (Musu-Gillette et al., 2017). The median household income for

AIAN is $37,227, which is significantly lower than the nation's median household

income of $53,657 (U.S. Census, 2014). It is estimated that 24.8% of AIAN population

is living in poverty (U.S. Census, 2014). The AIAN population makes up about slightly

less than 1% of the student enrollment of degree granting post-secondary institutions

(National Center for Educational Statistics, 2014). It has been reported that numbers for

enrollment for AIAN students continue to increase each year; however, representation of

this population at college institutions is marginally low (National Center for Educational

Statistics, 2010). In comparison to Whites, Blacks, Hispanics, and Asians, the AIAN

population reported the lowest number of conferred bachelor's degrees (National Center

for Educational Statistics, 2013). In comparison with all the races, the AIAN population

shared the highest percentage (11.3%) of unemployment with Blacks (U.S. Bureau of

Labor Statistic, 2015). Post-secondary degrees can lead to more stable careers and

higher income than individuals without a college degree (Aud et al., 2010; Kingston et

al., 2003). Educational attainment could improve the lives of AIAN people; therefore, it

is crucial to investigate the problem of college departures of AIAN students.

Tribal Colleges

The establishment of American Indian colleges during the 1970's has had a

significant impact on AIAN academic success (Martin, 2005). The positive effect of

American Indian colleges has led to increased participation, retention, and graduation

rates of AIAN students (American Indian Higher Education Consortium, 2012), and this has been attributed to the colleges providing programs, courses and student support services that are more culturally sensitive/relevant and applicable to the unique needs of AIAN students (Martin, 2005; Boyer, 1997). There are a total of 37 tribal colleges in the United States (bie.edu). In addition, tribal colleges have provided AIAN students with increased educational opportunities, which is suggested to be due to the incorporation of tribal-specific culture, history, and language in academic and student support programs (Martin, 2005). Tribal college students have an average age of 28, tend to be single parents, and a high percentage are women (68%) (Martin, 2005). The American Indian College Fund (2003) found that American Indian students who attend tribal colleges prior to attending 4-year, major institutions persist and obtain degrees four times the rate of American Indian students of who do not attend tribal colleges. In 2006, the Institute for Higher Education Policy reported a positive trend of tribal college students transferring to 4-year institutions to complete their bachelor's degree. This trend suggests that tribal colleges are preparing students to be successful and to persist to obtain a bachelor's degree.

The population of interest for this study are the Diné (Navajo) college students attending Diné College. Diné College is located on the Navajo Nation reservation. In 1968, Diné College became the first tribally controlled community college in the United States (www.dinecollege.edu). Diné College is a postsecondary two-year educational institution that mainly awards associates degrees, however, through a partnership with Arizona State University (www.dinecollege.edu), students can also earn a bachelor's degree in teacher education. Diné College offers educational opportunities to Diné

students who want to obtain a degree or to complete the required courses needed to transfer to a 4-year college or university. According to the educational philosophy of Diné College, this institution is grounded on Diné (Navajo) cultural traditions (www.dinecollege.edu). An example of how Diné culture is integrated into Diné College is the main administrative building being designed to replicate a hogan, a traditional Diné home (Boyer, 1997). Diné College has six locations (Tsaile, Shiprock, Crownpoint, Chile, Tuba City, and Window Rock); however, the Tsaile campus is the considered to be the main campus, followed by the Shiprock campus.

Jackson et al. (2003) found that Native American students who leave the reservation to pursue an academic degree are likely to experience difficulties due to exposure to unfamiliar surroundings that do not have cultural and spiritual significance. In addition, research has found that colleges' lack of accommodation of Native American culture has contributed to a lack of academic persistence among Native American students (Benjamin et al., 1993). Benjamin et al. (1993) revealed that colleges that neglected to accommodate to the Native American culture experienced academic non-persistence among Native American students. However, it is assumed that these findings may not apply to Diné College students because Diné Colleges may be more culturally accommodating and are located on familiar surroundings on the Navajo Nation reservation. The purpose of the current study was to examine factors that contribute to the academic stress and academic persistence decisions of Diné students attending Diné Colleges on the Navajo Nation reservation.

Diné Tribe

The population of interest for this study were college students who were members of the Diné (Navajo) tribe. In the Navajo language, people refer to themselves as Diné, which means "the people" (Lindig & Teiwes, 1993). The Diné tribe is one of the largest federally recognized tribes in the United States (U.S. Census, 2014). The Navajo Nation reservation is the largest Indian reservation in the United States and is predominantly located in Arizona and New Mexico; however, its borders extend partially into Utah. In 2014, the U.S. Census reported 308,296 individuals who identified as being Diné without any additional combination of race. A total number of 156,138 individuals who identified as being Diné reported to be living on the Navajo Reservation in 2010 (U.S. Census, 2010). The median income for the Diné population was reported to be $24,572, which is less than half the median income of the U.S. population ($51,914). The percentage of unemployment for the Diné living on the reservation (16.6%) was more than double the percent of unemployed for the U.S. population (7.9%). The 2010 U.S. Census also estimated that 33% of Diné families on the reservation live below the poverty level, which is almost two and half times greater than for the U.S. population (13.8%). These results emphasize the importance of a college education for the Diné tribe because it can reduce the chances of unemployment thus increasing income and quality of life.

Diné Culture

Willeto (1999) indicated that the Diné culture is based on the metaphysical belief system and underlines beauty, harmony and balance. The Diné tribe believe "everything in the universe has a purpose and a special place" (Snever & Himler, 1993, p. 20). Willeto also reported that the Diné teachings come from the "Holy People". The Diné

tribe believe that early in their history the Holy People interacted with their tribe and assisted them with a variety of things and provided them with various ceremonies for numerous situations (Page & Page, 2010). The Diné tribe believe there is good in everything; however, when there is a disturbance in the balance of the universe, evil and hazard may result (Snever & Himler, 1993). When problems occur, the Diné tribe attributes them to the presence of evil (Sneve & Himler, 1993). In an attempt to restore balance, a medicine man will conduct a traditional Diné ceremony to call upon the Holy Ones (Sneve & Himler, 1993). Ceremonies can occur over a span of several days and by the conclusion of the ceremony, the Holy Ones are believed to have rid the evil and restored balance (Snever & Himler, 1993).

An important and frequently practiced Diné ceremony is the Blessing Way (Lindig & Teiwes, 1993). The Blessing Way ceremony is conducted to bring positive outcomes, happiness, healthy life, and wealth and to provide security from harm (Lindig & Teiwes, 1993). Another important Diné ceremony is the Hózhó (Universal Harmony). The purpose of the Hózhó ceremony is to preserve or restore one's universal harmony (Lindig & Teiwes, 1993). This ceremony implies that individuals cannot succeed unless they are healthy and at peace with the surrounding nature (Lindig & Teiwes, 1993). The Blessing Way and Hózhó ceremonies are often conducted to help Diné students persist in college and graduate from college. Given the importance of Dine' cultural beliefs in the daily lives of Dine' people, adherence to cultural beliefs and practices was assessed as a contributor to academic persistence decisions, as well as academic stress, among Dine' college students.

Academic Persistence Decisions

The National Student Clearinghouse Research Center defined persistence as the act of continuing to maintain enrollment to obtain a degree (www.nscresearchcenter.org). In addition to SAT scores, Tracey and Sedlacek (1982) found non-cognitive variables to predict for academic success (GPA and continued enrollment) for White, Black and Asian American college students. Non-cognitive variables were found to be predictive of continued enrollment (persistence) and GPA for Black students. Tracey and Sedlacek found self-confidence, self-appraisal, availability of a strong support person to be significant predictors of academic persistence.

According to the Status and Trends in the Education of Racial and Ethnic Groups (2017) ethnic minorities (Hispanic, Black, Asian and American Indian/Alaska Native) represented about 41% of the undergraduate population in the United States in the fall of 2014. The National Center for Educational Statistics also reported that "less than 50 percent of Black students and American Indian/Alaska Native students graduated within 6 years at any type of 4-year degree-granting institution" (p 110). Post-secondary institutions often reflect Western values, beliefs and behaviors (Castillo et al., 2004) and this can make it difficult for students who identify with alternative traditional cultural beliefs connected to their ethnicity (Castillo et al., 2006).

Previous research has investigated academic persistence among racial/ethnic minority college students such as Blacks (Gloria et al., 1999; Nasim et al., 2005; Wood & Williams, 2013; Wei et al., 2011), Latinos (Bordes-Edgar et al., 2011; Castillo et al., 2006; Gloria et al., 2005; LeSure-Lester; 2003; Wei et al., 2011), Asian Americans (Bahrassa, 2011; Gloria & Ho, 2003; Wei et al., 2011), Native Americans (Gloria & Robinson Kurpius, 2001; Guillory, 2009; Guillory & Wolverton, 2008; Huffman, 2001;

6

Hunt and Harington, 2010; Keith et al., 2017; Jackson et al, 2003; Molt et al., 2016; Thompson, et al., 2013). The common themes that have been found to affect academic persistence for ethnic minority students were mentoring, academic preparation, educational self-efficacy, valuing of education (Bordes-Edgar et al., 2011), regular interaction with faculty, meeting with academic advisors, studying, family responsibilities that included financial support, life stress (Wood & Williams, 2013), comfort in a college environment, social support, and self-efficacy (Gloria & Ho, 2003). In a study that focused on racial/ethnic minority undergraduates, Rigali-Oiler and Robinson-Kurpius (2013) found perceptions of university environment and self-beliefs predicted persistence decisions.

Previous research has investigated academic persistence among American Indian/Native American college students (Gloria & Robinson Kurpius, 2001, Huffman, 2001; Jackson et al, 2003; Thompson, et al., 2013; Molt et al., 2016). Previous research has found non-cognitive factors that affect academic persistence among Native Americans such as poor college preparation (Guillory & Wolverton, 2008; Hunt & Harington, 2010; Keith et al., 2017), financial difficulties (Guillory & Wolverton, 2008; Huffman, 2003), utilizing cultural strengths and values (Huffman, 2001; Shield, 2009), commitment to family and community (Guillory, 2009; Guillory & Wolverton, 2008), children and family services (American Indian College Fund, 2003), college self-efficacy (Thompson et al., 2013), social support from family, friends and faculty (Gloria & Robinson Kurpius, 2001), peer mentoring (Shotton et al., 2007) and experienced racism, (Jackson et al., 2003). For Native American students on a predominantly White college campus, Chee (2008) reported that key predictors of academic persistence decisions

7

included ethnic identity, cultural congruity, and academic self-efficacy and that academic stress was negatively related to academic persistence decisions. In their sample of Native American students attending a predominantly White university, Gloria and Robinson Kurpius (2001) also identified social support (family, friends and mentors), comfort with the university (environment, cultural fit and stress) self-beliefs (self-efficacy and self-esteem) as key predictors of academic persistence decisions. Brown and Robinson Kurpius (1997) had identified support as an important variable for actual continued enrollment of Native American undergraduates. In a quantitative study that included Diné students, Jackson et al. (2003) found that students experienced racism on a predominately White campus – racism could affect persistence, but this may be less of a concern on a predominately Native American campus such as Diné College. Jackson et al. (2003) found that Native American college students found family support, structured social support (e.g., Native American clubs), faculty/staff warmth, exposure to college experiences and possible vocations, and reliance on spiritual resources to be positively associated to academic persistence. These studies indicate the multiple challenges that effect academic outcomes for students.

The current study examined the inter-relations of ethnic identity, culture, family, academic self-efficacy, academic stress, and academic persistence decisions among the Diné students attending a Diné college. This study was based on Tinto's (1987) theory of academic persistence/departure.

Theoretical Foundation for Academic Persistence Decisions

Tinto (1987) developed a comprehensive theory to understand academic persistence and college departure. The current study was grounded in select components

8

of this theory—individual factors, academic system factors, and commitment factors that are related to dropout decisions. The first component is the individual level and consists of three aspects including family background, individual attributes, and pre-college schooling. For the current study, background was reflected in family support for education, while individual attributes were reflected in one's ethnic identity, cultural involvement, and financial concerns. Academic self-efficacy can be viewed as an individual attribute that is both an individual attribute and related to pre-college schooling, the third aspect of individual factors. Academic self-efficacy is a personal belief that can be based on previous accomplishments such as doing well in previous educational pursuits. A second component of Tinto's theory relevant to this study is academic systems, particularly academic performance as it is related to academic self-efficacy and academic stress. The final component of Tinto's theory relevant to this study is goal commitment. Defining goal commitment as a student's commitment to his or her academic or occupational goals, Tinto stated that the greater a student's commitment to his or her academic or occupational goals the greater the willingness of the student to work toward goals in order to complete college. This commitment is reflected in students' decision to remain or depart from school.

Review of the Literature

Literature related to background variables includes research on ethnicity and cultural involvement and on family variables (financial concerns and family support for education). Research related to academic systems and goal commitment, which includes academic persistence decisions, academic self-efficacy, and academic stress, is also discussed.

9

Family Support and Financial Concerns

The contextual variables of family support and responsibilities and concerns about finances can impact students' academic persistence. Among Native American college students, academic persistence and success is often attributed to family support (Atkinson & Hackett, 2004; Bingham et al., 2014; Flynn et al., 2012; Guillory & Wolverton, 2008; Thompson et al., 2013). For example, Jackson et al. (2003) conducted qualitative interviews with 15 Native Americans who were successful at college and found that family support was a prevalent theme related to their persistence. In a quantitative study with 156 Native American students, Thompson et al. (2013) also found that parental support, along with community support, was positively related to persistence decisions. When examining family support among undergraduates, Gloria and colleagues described family support as encouragement and valuing of education (Gloria, Robinson-Kurpius, Hamilton, & Willson, 1999; Gloria & Robinson-Kurpius, 2001) and found that it was positively related to academic persistence decisions. In their review of the literature on post-secondary American Indian students, Flynn et al. (2012) noted that support from family was a foundational value for American Indian tribes.

In an early research study with Dine' participants, family was found to be very important (Kluckhohn & Leighton, 1974). In a later study with over 100 American Indian participants who had obtained at least a bachelor's degree, Rindone (1988) found that participants attributed their success to family support and that those who came from families that demonstrated a stability of traditional values were more likely to achieve academic success. This is reflected in Willeto's (1999) definition of family support that included parental education, a healthy relationship with mother, and family faithfulness

to traditional cultural practices.

To understand why college persistence of Native Americans is substantially different from the general population and other minority groups, Hoffmann et al. (2005) conducted a qualitative study with Diné secondary education students. They asked students about their perspectives on careers and post-secondary education. Hoffmann et al. identified several barrier themes, such as financial difficulties, family and peer pressure, and academic difficulty in major subjects such as math, science, and English. The family and peer pressure themes were described as pressure not to leave the reservation and pressure to follow the parent's suggested career path. Some Diné students also indicated that they might not have the ability to succeed because of other family members' lack of success in post-secondary education.

Related to family support, family responsibilities (Dell, 2000; Guillory & Wolverton, 2008) can also affect academic persistence among tribal college students. Makomenaw (2014) found that for Native American students with children, childcare responsibilities increased their need for greater family support, which was important for academic persistence, and that Native American students believed it is important to meet the needs of the family before pursuing personal goals and dreams. Specifically, Makomenaw (2014) found that for Native American students, the individual goal of obtaining a bachelor's degree required family approval and prior assurance of meeting family needs. The importance of family is demonstrated by this family-first mentality that puts the needs of family before education, regardless of the outcome (Makomenaw, 2014). Makomenaw found that Native American students reported making adjustments to their schedules to compensate for time to meet family needs. As one participant said,

"when it comes to your family you have to go; we are going to reschedule this because family comes first. Family is your backbone that is your main support system. I probably learned that the hard way" (p. 387). The consequence of rescheduling for family potentially meant completing homework at late hours, not doing homework, or not attending class. However, despite the consequences, Native American students often made the decision to put family needs first, above any educational requirements. All of the Native American participants in Makomenaw's study stated without hesitation said that they would choose family over their pursuit of a degree. Bingham et al. (2014) also found that Native American and First Nations female college students prioritized family over education.

Flynn et al. (2012) found that family can have a positive and a negative effect on academic persistence for Native American students. Specifically, family support such as encouragement for degree completion by family members can be a positive motivator for academic persistence; however, family obligations such as helping grandparents or being present for the family while dealing with a family crisis can negatively affect academic persistence. Guillory and Wolverton (2008) found that Native American students "took breaks" or departed college to assist with family concerns. Prioritizing family obligations over academic responsibilities has been found to lead to lower academic achievements among college students (Tseng, 2004). For example, a participant in Jackson's et al., (2003) study recalled his family's response when he started to tell his family about his studies at college, "Oh, that doesn't mean anything to us, we're Native Americans. That's for the other . . . White people"… "That doesn't apply to us. Go take your education someplace else." (p 559). Jackson et al., (2003) found that Native Americans

in college may fear being labeled as a "sell-out" by their family and community for acculturating academically and vocationally to the dominant culture. Christie and Dinham's (1991) study emphasized the significance of family on academic persistence, particularly for students who had parents who wanted their children to depart a more distant college to attend a college near them. Examining gender and family, Deyhle and Margonis (1995) found that Diné women tended to be more committed to family relations than to academic achievement. Collectively, research suggests that some Diné college students, particularly female students, could leave college to fulfill family obligations.

When the family is accommodating to student academic responsibilities and is supportive of the student's educational pursuits, it can be an important motivating factor for academic persistence among American Indian undergraduates who were primarily Navajo (Gloria & Robinson Kurpius, 2001). On the other hand, when families ignore the students' academic commitments, it appears that the cultural expectation to meet family responsibilities first can affect a student's ability to meet academic requirements or goals. Although, Native American students may find a way to complete their academic responsibilities, the stress to balance both family and school commitments can affect their academic work, which can eventually affect their academic grades, academic status, and scholarship opportunities.

Financial support is also particularly important for Native American students given that most Native American families are financially underprivileged. In 1998, the U.S. Department of Education found that minimal financial support from family and institutions affected persistence among the Native American student population. In 2004,

according to the National Postsecondary Student Aid Study, almost 68% of American Indian students received some type of financial aid—either a grant or loan. Later studies by Guillory and Wolverton (2008) and Flynn et al., (2012) also found that financial concerns negatively affected the academic persistence of Native American students. Given that almost 25% of Native Americans live in poverty (U.S. Census, 2014), having adequate finances to support educational pursuits is still a barrier to seeking higher education (Tierney et al., 2007). Therefore, financial concerns, as well as family support, need to be addressed in any study of academic stress and persistence among Native American students.

Role of Ethnic Identity and Cultural Involvement

Phinney (1990) defined one's ethnic identity as thoughts, feelings, and actions connected to one's ethnic identity. Identification with one's ethnic culture means to have knowledge about one's culture, to demonstrate commitment to and acceptance of one's ethnic group, and to actively participate in traditional cultural practices (Phinney, 1990). American Indians often live in two worlds while sustaining their cultural traditions and values of their tribal community and functioning in the dominant Western society. Studying transculturation hypothesis, Huffman (2001) found that culturally traditional American Indian students who reported a strong association with their culture were able to utilize their ethnic identity as a strength to help them balance both the dominant university culture and their American Indian culture to experience success and persistence in college. Huffman (2001) found that American Indian students do not need to give up their cultural ways to experience academic success while navigating non-native environments. Huffman also found that by being connected to their native

heritage, American Indian students used their cultural skills to increase their competency to function in two cultures, mainstream and the American Indian culture. In a study of 67 American Indian students, Okagaki et al. (2009) found similar results to Huffman's study by indicating that students who have a strong identification with their ethnicity and have openness to interacting with other cultures were more likely to have positive academic experiences and beliefs. Students in Okagaki et al. study stated that ethnic identity was significant to their personal identity and reported a strong connection to their ethnic identity. The findings by Huffman and Okagaki appear to support previous results by Lafromboise et al. (1993) that suggested that minority students who have a strong identification with their culture can do well academically while living in two cultures if they are open to becoming biculturally competent by learning, understanding, and developing and maintaining positive attitudes of the dominant culture.

In his discussion of American Indian ethnic identity, Horse (2005) noted that one's American Indian identity consists of how "one feels about oneself and one's experiences as an American Indian" (p 65), but this identity can also be determined by a tribal government that determines legal eligibility of tribal affiliation. Horse further explained that one's actions are guided by moral values from one's individual consciousness and group consciousness with whom he or she shares common ethics. Horse identified five influences of American Indian consciousness: "the extent to which one is grounded in one's Native American language, the validity of one's American Indian genealogy, the extent to which one holds a traditional American Indian general philosophy or worldview (emphasizing balance and harmony and drawing on Indian spirituality, one's self-concept as an American Indian, and one's enrollment (or lack of it)

15

in a tribe" (p. 65). One's ethnic identity can serve as a foundation for sense of self and provide a grounding for multiple behaviors.

Sellers, Rowley, Chavous, Shelton, and Smith (1997) indicated that ethnic identity consist of four facets: centrality, public regard, private regard, and ideology. Centrality is described as the importance of one's racial/ethnic group to one's identity, public regard is one's opinion of how others feel about one's race/ethnicity, private regard is one's attitude about one's own race/ethnicity, and ideology is described as how one's beliefs, opinions, and attitudes reflect how members of his or her own race should behave. Johnson, Robinson Kurpius, Dixon Rayle, Arredondo, & Tovar-Gamero (2005) tested the reliability and validity of a modified version of this instrument with Latino, Euro-American, and Native American undergraduates. While centrality and private regard had acceptable reliabilities (.78 and .88, respectively), the reliability of public regard was only .49 for Native American students.

Ethnic identity has been found to be related to college adjustment (Grayson, 1998) and perceptions of the academic environment. For example, studying Native American students on a predominately White university campus, Chee, Shorty and Robinson-Kurpius (in press), found that Native American college students' concern about how others perceived them as a Native American (public regard) was linked to their academic stress. The more negative the perceived public regard, the more academic stress these students reported. Chee et al. originally found weak internal consistency reliabilities for the public regard scale ($\alpha = .64$) and for the centrality scale ($\alpha = .56$); however, when they removed items from each scale the internal consistencies were .71 for public regard and .69 for centrality.

16

Specially addressing the concepts of ethnic identity and the experience of cultural conflict on college campuses by Native Americans, Benally (1994) suggested that an alignment of traditional spiritual practices and college success could reduce perceptions of cultural conflict and encourage cultural identity. Although little literature was found on student involvement in traditional spiritual practices, as well as other behaviors related to one's Native culture, cultural involvement has been found to play a significant role in the lives of Native American people. This role sometimes supports academic persistence. For example, in a qualitative study that included Diné college students, Jackson et al. (2003) found that Native American students who participated in cultural practices such as traditional ceremonies found it helped their commitment to obtaining their college degree (academic persistence). One student stated "I would use my traditions. I would get prayers done. I would get ceremonies done for my education. That would help me" (Jackson et al., 2003). In a study of Navajo youths, Willeto (1990) found that participation in traditional rituals did not have an effect on academic performance. However, Willeto found a "modest" association of cultural convention (e.g., rug weaving, silversmithing, maintenance of livestock and ownership) and self-respect (attachment to Navajo identity and heritage, importance of respect in the Navajo community) and suggested that these may be connected to academic success.

Cultural involvement, however, has also been found to hinder academic success. For example, in an early study with Native Americans, Scott (1986) found that students who were more attached to their American Indian culture were less likely to succeed in college. However, Scott's (1986) study was conducted on a predominately White university campus, and he suggested that if college campuses were more inviting to

17

American Indians they could experience more academic success. In addition, Huffman (2008) indicated that American Indian students who came from the reservation with high identification with their American Indian culture were most likely to experience difficulties on a predominately White campus compared to American Indian students who did not come from the reservation because the environment may be unfamiliar, difficult and troubling for culturally traditional Native students.

According to Dine' elders, a Diné person who is involved with their culture meets the 11 cultural specific expectations (personal communication, 2017). First, a Diné believes in the Diné creation story. Certain Dine' creation stories are told in certain seasons (e.g. Winter or Summer). For example, the story of the Spider Woman is only told in the winter time in the Dine' culture. Like the creation story, certain ceremonies are only conducted in specific seasons. Second, he or she is able to speak and understand the Diné language. The Diné language is unique and there are some words that do not translate to the English language. Third, it important for a Dine' person to identify one's self in their four traditional clans. Fourth, a Diné person prays often to the Holy People. Diné people believe the Holy People are in the East early in the morning before the sun rises. Fifth, a Diné person understands the significance of the Four Sacred mountains (i.e., Blanca Peak, Mount Taylor, San Francisco Peak, and Hespersus Mountain). Sixth, a Diné person knows the specific plants that are used for spiritual practices. Seventh, a Diné person acknowledges that the Diné culture is a matriarchal culture and he or she respects its purpose. Eighth, a Diné person participates in and attends traditional Diné ceremonies. Ninth, a Diné person is present on the Navajo reservation several times a year. Tenth, a Diné person dresses in traditional Diné attire (e.g. wears turquoise jewelry

and moccasins). Eleventh, a Diné person eats traditional Diné foods.

Previous research has found ethnic identity and cultural involvement to be significant to one's Native American identity. Furthermore, ethnic identity and cultural involvement have been connected to academic persistence. This study investigated how ethnic identity and cultural involvement influenced academic stress and persistence decisions among Diné college students.

Academic Self-Efficacy

Bandura (1997) defined self-efficacy as one's belief in self in order to complete specific tasks. Bandura posited that students with higher self-efficacy are more likely to put forth greater efforts to overcome threatening situations. Students who report high levels of self-efficacy are more likely to establish higher goals, have greater resilience in completing difficult tasks and experience greater academic success than students with lower self-efficacy (Bandura, 1993; Zimmerman, Bandura & Martinez-Pons, 1992). In academic settings, self-efficacy beliefs can lead to successful use of prior knowledge and skills that can affect academic outcomes because self-efficacy can increase motivation and persistence when completing difficulty tasks (Bandura, 1997). Zajacova et al. (2005) recommended when studying students in academic settings one should consider measuring academic self-efficacy (ASE) as opposed to generalized self-efficacy and defined ASE as one's confidence in self to complete academic responsibilities such as passing exams and writing papers. A meta-analysis by Multon et al. (1991) found academic self-efficacy to have a greater effect than general self-efficacy on academic outcomes.

Previous research has connected ASE to grades (Becker & Gable, 2009; Bong,

19

2001; Elias & Loomis, 2002; Komarraju & Nadler, 2013; Krumrei-Mancuso et al., 2013; Robbins et al., 2004; Zajacova et al., 2005), academic performance (Komarraju & Nadler, 2013; Multon et al., 1991) academic persistence (Davidson & Beck, 2006; Multon et al., 1991; Robbins et al., 2004; Zhang & Richarde, 1998) and achievement in college (Gore, 2006; Zajacova et al., 2005). Chemers et al. (2001) found ASE to contribute to confidence in one's abilities to manage adjustment to college, increasing academic performance and competence to deal with college stressors for first year college students that included ethnic minorities (i.e., Hispanics and Asians). Krumrei-Mancuso et al. (2013) found ASE and organization and attention to study (organization of task, structuring of time, goal setting, planning, carrying out necessary academic activities) to predict grades. While investigating the relationship of psychosocial and study skills factors to college outcomes, Robbins et al., (2004) conducted a meta-analysis that consisted of 109 studies and found ASE was the greatest predictor of GPA and that it was strong predictor of college retention. Previous research has found students who had greater self-efficacy worked harder, were more willing to participate in the classroom, sought challenging goals, committed to accomplishing desired goals, and persisted in challenging situations (Pajares, 2003)

Among ethnic minority students, previous research has found ASE to be positively related to academic persistence for individuals who reported multiple race/ethnicities (Rigali-Oiler & Robinson Kurpius, 2013), for Chicana/Chicanos (Gloria, 1997), for Latina/o (Kurpius et al., 2008; Manzano-Sanchez, 2018; Torres & Solbert, 2001), for African Americans (Gloria et al., 1999; Hudson, 2015; Marrah, A. K., 2012; Styles, 2017), for Asian Americans (Edman & Brazil, 2009) and for Diné (Rindone,

1988). Academic self-efficacy was also found to be a mediator of the impact of family support on social integration and stress for Latino/a college students (Torres & Solbert, (2001). In addition, Torres and Solbert found family support to affect degree of academic self-efficacy, which suggests that family support leads to confidence in one's abilities in managing difficulties. Torres and Solbert also found academic self-efficacy to be positively connected to number of hours spent studying. In a study that included ethnic minority (i.e., Black, Hispanic, and Asian) college students, Zajacova et al. (2005) found academic self-efficacy to be negatively correlated with stress, having a strong positive effect on grades and predicting academic success (GPA, credits, and enrollment). However, during the second year of college enrollment for these students, academic self-efficacy did not have major influence on academic persistence, and it was suggested that students departed college due to reasons other than self-beliefs (Zajacova et al. 2005). In a study that included European Americans, Latino/as and Native Americans students, Kurpius et al. (2008) found that self-beliefs (i.e., commitment to and valuing of a college education, self-esteem, educational self-efficacy) did not predict academic persistence decisions and it had no association with GPA for Native Americans students which was contrary to European Americans and Latino/a students. It was concluded that this result may have been due to Native American cultural beliefs that suggest collective thoughts rather than individual thoughts and self-beliefs focus on individual thoughts.

Previous research has found self-efficacy to predict academic persistence decisions among Native American students (Gloria & Robinson Kurpius, 2001; Jackson et al., 2003; Rindone, 1988; Thompson et al., 2013). Gloria and Robinson Kurpius (2001) found that Native American students at a predominately White university who

reported confidence in their academic abilities were likely to make fewer academic non-persistence decisions. In a study that consisted of 156 Native American college students, Thompson et al. (2013) found that coping efficacy (a construct very similar to academic self-efficacy) and self-beliefs such as academic self-efficacy and self-esteem were predictors of academic persistence intentions. In a qualitative study that consisted of 15 Native American college students who grew up on the reservation that included Dine' students, Jackson et al. (2003) found confidence and self-efficacy to contribute to greater independence and assertiveness attitudes, which were associated with academic persistence and resilience. This finding was supported by Martinez (2014) who stated that American Indian students must have positive beliefs (confidence/self-efficacy) in their abilities in order to succeed academically.

Academic self-efficacy has been found to be a significant predictor of academic persistence among college students, including Native Americans attending predominately White institutions of high education. The link between academic self-efficacy and academic persistence decisions among Native American students attending a tribal college has not been studied. Therefore, this study investigated the relation of ASE and academic persistence decisions, as well as academic stress among Diné college students.

Academic Stress

The Merriam-Webster Dictionary defined stressed as "a state of mental tension and worry caused by problems in life, work, etc." (Merriam-Webster.com). The consequences of stress are that it could lead to a person feeling incompetent and emotionally challenged especially when the stressor is constant (Jackson & Finney, 2002). The inability to manage stress can lead to symptoms such as feelings of

22

loneliness, anxiety, insomnia, and continuous worrying (Ross, Niebling, & Heckert, 1999), and depression (Dixon & Robinson Kurpius, 2008; Farrell & Langrehr, 2017). According to the American College Health Association National College Health Assessment (2017), 31.7% of students reported stress as the number one factor that negatively impacted their academic performance (i.e., received low grade on exam, project, course, received incomplete or dropped course, etc.). Fong et al. (2017) indicated that "although some degree of academic stress can indicate interest in the task and a response to appropriate task difficulty, many students experience overwhelming amounts of anxiety that ultimately affect their performance" (p. 8). Fong et al. stated that academic stress can be perceived as a threat appraisal which can prompt negative behaviors (e.g., procrastination) or it can be perceived as a challenge appraisal that can lead to positive coping responses (e.g., increase in study hours and preparation).

Stress has been studied extensively among college students (Dyson & Renk, 2006; Gall, Evan, & Bellerose, 2000; Thomas & Borrayo, 2016) and has been found to affect academic persistence (Thomas & Borrayo; 2016; Wei et al., 2011; Zajacova, Lynch, & Espenshade, 2005) and college adjustment (Dyson & Renk, 2006). Ross et al. (1999) contributed college stress to the following: interpersonal development and management (e.g., family, peers, etc.); matters related to academics (homework, grades, etc.); and environmental adjustment (transition to college and adjustment to unfamiliar situations).   College stress can also be attributed to financial difficulties, balancing employment with college, maintaining interpersonal relationships, academic responsibilities and pressures, conflict within family, and difficulty managing time for obligations (Phinney & Haas, 2003). Academic responsibilities can include academic

tasks such as studying for exams, writing academic papers, and completing homework. Some students eventually adjust to college; however, others find the transition challenging and stressful (Towbes & Cohen, 1996). Previous research has also found academic stress to predict poor academic performance (Felsten & Wilcox, 1992; Pritchard & Wilson, 2003; Russell & Petrie, 1992), especially for freshmen students (Struthers, Perry, & Menec, 2000).

College stress has been found to lead to academic non-persistence decisions among female students (Dixon Rayle, Arredondo, & Robinson Kurpius, 2005). Students who reported having higher levels of stress also reported lower intellectual testing scores (Goldman & Wong, 1997). Thomas and Borrayo (2016) found high stress to be associated to both class and work absences due to illness among college students. Further investigation indicated that dissatisfaction with their social support system increased the intensity of perceived stress and illness. This result emphasized the importance of social support because previous research has found social support (i.e., family and friends) to be beneficial to college adjustment (Friedlander et al., 2007) and to be a protective factor for severe stress (Bland et al., 2012).

Zajacova et al. (2005) found academic stress and ASE as predictors of academic performance outcomes (GPA, accumulated credits and retention), with perceived stress accounting for a stronger prediction for continued enrollment (persistence). Consistent research continues to support a negative correlation between ASE and academic stress among college students (Gigliotti & Huff, 1995; Hackett et al., 1992; Solberg, Hale, Villarreal, & Kavanagh, 1993; Solberg & Villarreal, 1997; Torres & Solberg, 2001).

Farrell and Langrehr (2017) found social support to be associated with perceived

24

stress and depressive symptoms among college students. In addition, support was found

to have a stronger association with perceived stress for ethnic diverse students than White

students. This result emphasizes the importance of social support (family support) on

college students.   When it comes to social support for managing stress, Navajos

identified family support to be more helpful than friends when coping with stress

(Willeto, 2015).

In a study regarding treatment of substance dependence among Native Americans,

Garrett and Carroll (2000) identified consultation or participation with a native healer as

a coping mechanism for stress management and difficulties with acculturation and

identity confusion instead of dependence on substance use. In a qualitative study of three

generations of Navajo rug weavers, Davidson (2013) found Navajo rug weaving to be a

coping mechanism for stress management. One participant stated that "I would say

[weaving] is almost therapeutic, because sometimes when you're stressed out weaving

makes your thinking more clear. If you are thinking about how to resolve a problem

usually, for me, a solution comes to mind" (Davidson, 2013, p. 92). Navajo ceremonies

are primarily "used to restore an ailing individual to good health, harmony and happiness

to return to positive wellbeing after a physical, mental, or spiritual illness (Willeto, 2012,

p 383). This suggest that Native Americans utilize traditional cultural involvement such

as participation in spiritual practices or cultural activities as a way to cope with stress or

other difficulties.

Pierceall and Keim (2007) had hypothesized that non-traditional college students

in community colleges would report great levels of stress because they were likely to

have multiple roles such as parent and employee. They found, however, that community

college students reported less stress than did students at a 4-year institution. Prior research has found that women experience higher levels of stress than men while in college (Brougham, Zail, Mendoza & Miller, 2009; Dixon & Robinson Kurpius, 2008).

Previous research has also found academic stress to have a significant impact on academic outcomes, particularly for ethnic minority students (Wei et al., 2011; Zajacova, Lynch, & Espenshade, 2005), for African American students (Gloria et al., 1999), and for Native Americans students (Chee, 2009). Kearney et al., (2005) found ethnic minority students to experience higher levels of stress than White students. Wei et al. (2011) stated that minority college students experience additional stressors due to their minority identity. Wei et al. referred to the stress that minority students encounter to as minority stress and refers to the unique stress they encounter while adjusting to college and integrating into the university community. Minority students are often first-generation college students (Zalaquett, 1999) and, therefore, are more likely to experience additional stress such as financial difficulties, employment while in college, academic pressure and family difficulties (Phinney & Haas, 2003) and discrimination (El-Ghoroury et al., 2012). In addition, ethnic minority students are likely to consider college departure when they experience minority stress (Wei et al., 2011).

Stress among Native American college students was found to be related to ethnic identity and sense of cultural congruity on campus (Chee et al., in press). Edgewater (1981) stated that Navajo students are dealing with an unavoidable stress by struggling with the decision to assimilate with the White culture or to maintain their native culture. In a qualitative study that investigated academic persistence for first year Native Americans that included Navajo students, Tachine et al. (2017) found that a sense of

26

belonging to a college institution (i.e., coping with academic demands and campus social stressors without family) was related to stress. When a sense of belonging decreased, stress levels increased (Tachine et al., 2017). One student, Hannah, stated "when things start going bad I call home or say I want to go home or I don't want to be here. . . . When things start stressing out or when something bad happens and there is no one here, like no family and it gets hard and I want to go home or you feel lonely. I still feel like I don't belong" (Tachine et al., 2017, p 795). The current study examined factors impacting the academic stress and academic persistence of Diné college students.

Purpose of This Study and Hypotheses

Tinto's (1987) model specified that college success was dependent on individual and institutional factors. The research literature has addressed multiple factors (i.e., stress, self-efficacy, social support, cultural practices, etc.) that have been linked to academic persistence. This study built on the existing literature by focusing on Native American students attending Diné colleges on the Navajo reservation and by examining the relation of financial concerns, family support, cultural involvement, ethnic identity, and academic self-efficacy with academic stress and the ability of these factors collectively to account for academic persistence decisions of Diné college students. The following hypotheses were tested:

H1: More family support and cultural involvement and fewer financial concerns will predict less academic stress and more positive academic persistence decisions among Diné students.

H2: Ethnic identity will account for significant variance in academic stress and academic persistence decisions above and beyond that accounted for by family support, cultural

27

involvement, and financial concerns among Dine' students.

H3: Academic self-efficacy will account for significant variance in academic stress and academic persistence decisions above and beyond that accounted for by family support, cultural involvement, financial support, and ethnic identity among Dine' students.

H4: Academic stress will account for significant variance in academic persistence decisions above and beyond that accounted for by family support, cultural involvement, financial concerns, ethnic identity, and academic stress to predict academic persistence decisions among Diné students.

CHAPTER 2

METHOD

Participants and Recruitment

Data were collected across two Diné College campuses (Tsaile, AZ and Shiprock, NM). Participants for the study had to be 18 years of age or older and identify as a Diné Tribe member. The current sample was comprised of 209 Diné College students (90 males, 118 females, and 15 did not report gender). Of the 209 participants, 172 were from the Tsaile campus, and 37 were from the Shiprock campus. The Tsaile campus is considered to be more central and rural on the Navajo Reservation; whereas, the Shiprock campus is near the border of the Navajo Reservation and slightly less rural. For the 204 who reported their age, the mean age was 24.36 ($SD = 7.67$) years, median age was 21, and the mode was 19 years.

Prior of recruitment of participants, approval to conduct the study was obtained from Tsaile Chapter House, Shiprock Chapter House, Navajo Nation IRB, and Arizona State University IRB (see Appendix A). After IRB approvals were obtained, study surveys were administered to Diné students by the researcher. The researcher recruited participants using the convenience sampling approach by recruiting Diné students enrolled in the required core curriculum courses (i.e., Math, English, Science, Humanities) at the two Diné college locations.

Procedures

Participants completed all documents in paper-pencil form. Confidentiality was maintained by keeping questionnaires and demographic forms secured in a sealed manila envelope to which only the researcher and his advisor had access. Participants completed

the surveys during class time under the supervision of the researcher. All participants gave informed consent to voluntarily participate in the study. The informed consent consisted of information such as purpose of study, confidentiality, and that participation was voluntary and that students could withdraw from the study any time throughout the study without penalty. After reading the informed consent letter, participants completed the survey packet. Thirty-two participants who completed the survey packet in Tsaile agreed to be retested in two weeks to assess the test-retest reliability of responses to financial concerns, family support, and cultural involvement questions.

All participants were given the opportunity to participate in a raffle for two $25 Wal-Mart gift cards for participating in the study. Each participant interested in the raffle was instructed to write his or her name and phone number on a sheet of paper that was separate from the survey. To protect confidentiality, participants' names and phone numbers were shredded at the conclusion of the raffle.

Study Instruments

Participants completed a demographic sheet and survey packet (See Appendix B). In addition to asking about basic demographics such as gender, ethnicity, age, and family income, the demographic sheet asked about financial concerns, family support for their education, and involvement in the Diné culture. The survey packet also included measures of ethnic identity, academic self-efficacy, academic stress, and academic persistence decisions.

Financial Concerns. Six items were created to assess financial concerns. In response to the statement "To what extent are the following financial issues problematic?", the six items were rated on a five-point scale ranging from "1" (not

difficult) to "5" (very difficult). Sample items include: "my college tuition" and "my

college books." Responses were summed and averaged, with higher scores reflecting

greater financial difficulty. The Cronbach's alpha for the Financial Concerns scale for

this study was .83 when it was completed as part of the survey packet. The two-week

test-retest reliability for the subscale for the subsample was $r(32) = .57$, $p = .001$.

Family Support for Education. Based on Gloria's (1993) work, family support

and encouragement for education was assessed by five items that were rated on a 5-point

Likert type scale that ranged from "1" (not at all) to "5" (very much). Items assessed

support and encouragement from mother, father, grandparents, aunts/uncles, and

brothers/sisters/cousins. Responses across items were summed and averaged with higher

scores reflecting more family support for education. The Cronbach's alpha for the

Family Support scale when completed as part of the study packet was .78. The two-week

test-retest reliability for the subsample was $r(32) = .65$, $p = .000$.

Cultural Involvement. Cultural involvement was measured by the Diné Cultural

Involvement Scale that consisted of 10-items. These items were created based on the

reports of three traditional Diné elders. Sample items included: "I participate in Diné

ceremonies" and "I am familiar with the Diné Four Scared Mountains". Each item was

assessed on a five-point scale ranging from "1" (not at all) to "5" (highly). Responses

were summed and averaged, with higher scores reflecting higher cultural involvement.

The Cronbach's alpha for the Cultural Involvement scale when completed with the study

packet was .86. The two-week test-retest reliability for this scale for the study subsample

was $r(32) = .88$, $p = .000$.

Ethnic Identity. Ethnic identity was assessed using the Multidimensional Inventory of Black Identity Scale – Modified (MIBI-M; Johnson et al, 2005). Sellers et al. (1997) initially developed the scale to measure three facets of racial identity (centrality, private and public regard, and ideology) among Black participates. Johnson et al. (2005) modified the original MIBI to assess ethnic identity among Euro-American, Latino/a, and Native American undergraduate students. Of interest in the current study were centrality of ethnic identity and private regard. Given that previous research (Chee et al., in press; Johnson et al., 2005) has reported weak internal consistencies for public regard and that the current study was conducted in a setting where the student population was homogeneous and predominantly identified as Dine', neither ideology nor public regard was assessed. Original items were reworded to replace "Being Black" with "Being Diné". Furthermore, one item ("I am proud to be Diné") was removed from the scale because this item was not included in the original MIBI and was mistakenly added to the instrument.

The centrality scale consists of 8-items that measure the extent to which individuals hold their ethnic identity as central to how they define themselves. A sample item from the centrality scale is "My destiny is tied to the destiny of other Diné people." The private regard scale consists of 6-items that measure one's emotional and evaluative judgment of one's own race/ethnicity. A sample item from the private regard scale is "I am happy that I am Diné." One private regard item ("Overall, I often feel that Diné are not worthwhile") was mistakenly left off the scale for this study. The Cronbach's alpha for the 7-item private regard subscale for the study sample was .68. Each item is assessed from "1" (strongly disagree) to "7" (strongly agree). After reverse coding as appropriate,

responses are averaged for each subscale. Higher scores suggest greater centrality and private regard. The Cronbach's alpha for the centrality subscale was .70 and for the private regard subscale was .68 for this study sample.

Academic Self-Efficacy. Academic self-efficacy (ASE) was measured by 12-items from College Self-Efficacy Inventory (CSEI; Solberg, Hale, Villarreal, & Kavanagh, 1993). The original CSEI consisted of 19 items that measure three factors of College Self-Efficacy (Course, Social, and Roommate). Since this study was not focusing on the self-efficacy of roommate interaction, the four items from this factor were not included. The course factor measures one's confidence in completing various tasks specific to academic course work. A sample item from the course factor is "write a course paper". Each item is rated from "1" (strongly disagree) to "7" (strongly agree). The social scale measures one's confidence to perform specific interpersonal tasks in multiple academic situations that can affect academic self-efficacy. A sample item from the social factor is "ask a professor a question." Each item is measured from "1" (strongly disagree) to "7" (strongly agree). Three original items from the social factor items were removed because they appeared to be less connected to academic self-efficacy and more associated to social context beyond academics. These three original social items were "get a date when you want one", "make new friends at college", and "join a student organization". Responses across the remaining 12 items were summed and averaged, with higher scores reflecting higher ASE. Previous research with American Indian participants have utilized the CSEI and reported Cronbach's alphas of .91 (Chee, et al., in press) and .72 (Gloria & Robinson Kurpius, 1999). The Cronbach's alpha for the 12 item College Self-Efficacy Inventory for this study was .87.

Academic Stress. A slightly modified Daily Hassles Index for College Stress was used to assess academic stress (Schafer, 1996). The original Daily Index for College Stress consisted of 29 items; however, two items that did not apply to this sample of Diné students were deleted. Since parking around both Diné College campuses (Shiprock and Tsaile) is not an issue, the item "parking problems around campus" was removed. In addition, since most students do not live on campus, the "no mail" item was also removed. Items such as "writing papers" and "taking tests", were rated on a 5-pointed scale ranging from "1" (not at all stressful) to "5" (highly stressful). Responses across the 27 items were summed and averaged, producing a score that could range from 1 to 5. Higher scores reflect greater academic stress. Previous research has reported Cronbach's alphas of .89 (Dixon & Robinson Kurpius, 2008) and .91 (Chee et al., in press) for this scale. The Cronbach's alpha for this 27-item modified measure for this sample was .91.

Academic Persistence Decisions. Academic persistence decisions was measured by the Persistence/Voluntary Dropout Decisions Scale (P/VDD; Pascarella & Terenzini, 1980), which consists of 30-items. The P/VDD was developed to measure aspects of academic persistence according to Tinto's Model (1975). Items that stated "university" were rewritten to "college" because Diné College identifies as college instead of a university. The Persistence/Voluntary Dropout Decisions Scale consisted of five subscales (Peer-Group Interactions, Interactions with Faculty, Faculty Concern for Student Development and Teaching, Academic and Intellectual Development and Goal Commitments). Sample items include: "It has been difficult for me to meet and make friends with other students" and "Since coming to college I have developed close personal relationships with other students." Each item is rated on a 5-point scale from "1"

(strongly disagree) to "5" (strongly agree). Responses across items were summed and then averaged, with higher scores suggesting more positive persistence decisions. Pascarella and Terenzini (1980) found significant evidence of discriminate validity in reported scores between two separate groups of students, those who persisted (identified 80.8% of the time) and those who did not persist academically (identified 81.7% of the time). Previous research has reported Cronbach's alphas of .79 (Gloria & Robinson-Kurpius, 2001) .82 (Chee, 2008) and .90 (Thompson et al., 2013) when assessing the academic persistence of Native American students. The Cronbach's alpha for the Persistence/Voluntary Dropout Decisions Scale for this study sample was .86.

Data Analyses

Initially, the internal consistencies and descriptive statistics for the study variables were calculated and the internal consistencies are reported in the Method section. Then correlations among the study variables were calculated (see Table 1). The hypotheses were tested using a series of hierarchical regressions using Statistical Package for the Social Sciences (SPSS) software. To test hypothesis one, financial concerns, cultural involvement, and family support for education were entered as a cluster to test their relation with academic stress (H1a) and with academic persistence decisions (H1b). In step two, ethnic identity (centrality and private regard) was added to the equations to predict academic stress (H2a) and to predict academic persistence decisions (H2b). To test the third hypothesis, academic self-efficacy was added in step 3 to predict academic stress (H3a) and to predict academic persistence decision (H3b). The final regression added academic stress to the equation to predict academic persistence decisions (H4).

35

CHAPTER 3

RESULTS

The descriptive statistics and correlations among the study variables are presented in Table 1. The internal consistency reliabilities for the study variables are presented in the Method section. Due to strong correlation of centrality with private regard but not with academic stress (see Table 1), the initial regression analyses predicting academic stress were examined to determine whether centrality was a suppressor variable for private regard (see Appendix C for regression results). Given that the beta weight for centrality ($\beta = .22$) was larger than the correlation between centrality and academic stress ($r = -.01$), centrality was determined to be a suppressor and was not included in the tests of academic stress but was included for the regressions predicting persistence decisions.

Table 1. Correlations

	M	SD	1	2	3	4	5	6	7	8
1. Academic Stress	2.66	.77	--	.26**	-.13	-.13	-.01	-.17*	-.36**	-.06
2. Financial Concerns	3.75	.90		--	.13	-.04	.16*	.11	-.14*	-.10
3. Cultural Involvement	3.66	.87			--	.03	.48**	.41**	.20**	.06
4. Family Support	4.67	.51				--	.29**	.30**	.17*	.10
5. Centrality	5.25	.99					--	.66**	.19**	.20**
6. Private Regard	5.91	.87						--	.25**	.25**
7. Academic Self-Efficacy	5.20	1.00							--	.43**
8. Academic Persistence	3.66	.49								--

Note: *p < .01; ** p<.001

       To test the study hypotheses two-hierarchical multiple regressions were calculated. The first regression predicted academic stress as the dependent variable and the second predicted academic persistence decisions. To test the hypotheses related to academic stress, financial concerns, family support, and cultural involvement were entered together in the first model to predict academic stress (H1a). Together, they accounted for 9.7% of the variance for academic stress among Diné College students, R^2 = .097, $F(3, 197) = 7.08$, p = .000. Examination of the beta weights indicated that financial concerns and cultural involvement were both significant predictors (financial concerns $\beta = .26$, $t = 3.86$, $p < .001$; and cultural involvement $\beta = -.16$, $t = -2.39$, $p = .02$). The beta weight for family support was nonsignificant, $\beta = -.11$, $t = -1.58$, $p = .12$. Financial concerns was positively related to academic stress, while cultural involvement and family support was negatively related to academic stress (see Table 1).

       When ethnic identity (measured only by the private regard scale) was added to the equation in model 2, it did not increase the accounted for variance in academic stress among Diné College students, $\Delta R^2 = .012$, $\Delta F(1, 196) = 2.62$, $p = .107$. Finally, when academic self-efficacy was added to the regression equation in model 3, it also increased the accounted for variance in academic stress among Diné College students, $\Delta R^2 = .08$, $\Delta F(1, 195) = 19.11$, $p = .000$. Examination of the beta weights indicated that financial concerns ($\beta = .23$, $t = 3.38$, $p < .001$) and academic self-efficacy ($\beta = -.30$, $t = -4.37$, $p = .000$) were the significant predictors of academic stress. Academic self-efficacy was negatively related to academic stress, and financial concerns was positively related to

37

academic stress (see Table 1).

The second hierarchical regression tested the prediction related to academic persistence decisions. To test whether financial concerns, family support, and cultural involvement would predict academic persistence decisions, they were entered together in the first model. They accounted for only 1.6% of the variance in academic persistent decisions among Diné College students and did not significantly predict of academic persistence decisions, $F(3, 199) = 1.06$, p = .37. When ethnic identity (private regard and centrality) was added to the equation in model 2, it increased the accounted for variance in academic persistence decisions among Diné College students, $\Delta R^2 = .057$, $\Delta F(2, 197) = 6.09$, $p < .003$. Examination of the beta weights revealed that private regard was the significant predictor ($\beta = .21$, $t = 2.28$, $p = .024$) of academic persistence decisions and was positively related to these decisions ($r = .25$). When academic self-efficacy was added to the equation in model 3, it increased the accounted for variance in academic persistence decisions, $\Delta R^2 = .149$, $\Delta F(1, 196) = 37.62$, $p = .000$. Examination of the beta weights indicated that academic self-efficacy was a significant predictor ($\beta = .41$, $t = 6.13$, $p = .000$) of academic persistence decisions and was positively related to academic persistence decisions ($r = .43$). Finally, when academic stress was added to the equation in model 4, it slightly increased the accounted for variance in academic persistence decisions among Diné College students, $\Delta R^2 = .014$, $\Delta F(1, 195) = 8.61$, $p = .06$. The beta weights for the full model indicated that private regard ($\beta = .17$, $t = 1.97$, $p = .05$) and academic self-efficacy ($\beta = .45$, $t = 6.46$, $p < .001$) were significant predictors of academic persistence decisions, while the beta weight for academic stress approached

significance ($\beta = .133$, $t = 1.86$, $p = .06$). Academic self-efficacy and private regard were positively related to academic persistence decisions while academic stress was negatively related to persistence decisions (see Table 1).

Table 2: Regression One – Academic Stress as Dependent Variable

Variable	β	t	R	Adjusted R^2	ΔR^2	ΔF
Step 1			.31	.08	.10	7.08***
Family Support	-.10	-1.58				
Cultural Involvement	-.17	-2.39*				
Financial Concerns	.26	3.85***				
Step 2			.33	.09	.01	2.61
Family Support	-.07	-.99				
Cultural Involvement	-.12	-1.58				
Financial Concerns	.28	4.02***				
Private Regard	-.13	-1.62				
Step 3			.43	.17	.08	19.11***
Family Support	-.04	-.54				
Cultural Involvement	-.08	-1.06				
Financial Concerns	.23	3.38**				
Private Regard	-.08	-1.04				
Academic Self-Efficacy	-.30	-4.37***				

*$p \leq 05$. **$p \leq .01$ ***$p \leq .001$

Table 3: Regression Two – Academic Persistence Decisions as Dependent Variable

Variable	β	t	R	Adjusted R^2	ΔR^2	ΔF
Step 1			.13	.00	.02	1.06
Family Support	.09	1.32				
Cultural Involvement	.06	.90				
Financial Concerns	-.06	-.81				
Step 2			.27	.05	.06	6.09***
Family Support	.00	.04				
Cultural Involvement	-.06	-.80				
Financial Concerns	-.09	-1.30				
Private Regard	.21	2.28*				
Centrality	.10	1.03				
Step 3			.47	.20	.15	37.62***
Family Support	-.04	-.54				
Cultural Involvement	-.12	-1.62				
Financial Concerns	-.03	-.40				
Private Regard	.15	1.68				
Centrality	.10	1.07				
Academic Self-Efficacy	.41	6.13***				
Step 4			.49	.21	.01	3.55
Family Support	-.03	-.40				
Cultural Involvement	-.10	-1.38				
Financial Concerns	-.06	-.83				
Private Regard	.17	1.97				
Centrality	.07	.74				
Academic Self-Efficacy	.44	6.45***				
Academic Stress	.13	1.89				

*$p \leq 05$. **$p \leq .01$ ***$p \leq .00$

40

CHAPTER 4

DISCUSSION

Research supports that non-cognitive factors (i.e., financial concerns, family support for education, cultural involvement, ethnic identity, academic self-efficacy) may play an important role in predicting academic stress and academic persistence among undergraduates (Gloria & Ho, 2003; Rigali-Oiler & Robinson-Kurpius, 2013; Tracey & Sedlacek, 1982; Wood & William, 2013). However, few studies have examined associations between non-cognitive factors and academic stress and academic persistence among Diné college students. Exploration into the relationship between these variables utilizing a hierarchical multiple regression may be beneficial in understanding how to impact academic persistence among Native American college students.

Hypothesis one predicted that more family support for education and cultural involvement and less financial concerns would be related to less academic stress and more positive academic persistence decisions among Diné students. Collectively, family support for education, financial concerns, and cultural involvement predicted less academic stress for this sample. This finding supports the literature that suggested more family support for education (Atkinson & Hackett, 2004; Bingham et al., 2014; Flynn et al., 2012; Gloria & Robinson-Kurpius, 2001; Gloria et al., 1999; Guillory & Wolverton, 2008; Thompson et al., 2013; Phinney & Haas, 2003), fewer finance concerns (Flynn et al., 2012; Guillory & Wolverton; 2008; Phinney & Haas, 2003) and cultural involvement were related to less academic stress (Davidson, 2013; Garrett & Carroll, 2000; Willeto, 2012). Further investigation into each of these individual level variables (Tinto, 1987)

41

indicated that fewer financial concerns and more cultural involvement were significant predictors of less academic stress. Surprisingly, family support for education was not a significant predictor of academic stress, which is inconsistent with the previous research (Bingham et al., 2014; Flynn et al., 2012; Gloria & Robinson-Kurpius, 2001; Gloria, et al., 1999; Guillory & Wolverton, 2008; Phinney & Haas, 2003; Thompson et al., 2013). However, a descriptive analysis indicated that the majority of the students reported strong family support for education ($M = 4.61$ out of 5.00 points), which is consistent with the literature (Bingham et al., 2014; Flynn et al., 2012; Gloria & Robinson-Kurpius, 2001; Gloria et al., 1999; Guillory & Wolverton, 2008; Phinney & Haaas, 2003; Thompson et al., 2013). Overall, not only was there strong family support for education but there was limited variance ($SD = 0.51$) for this measure. The limited variance in family support for education may have contributed to the lack of association between family support and academic stress. The results also indicated that the greater the financial concerns the greater the reported academic stress. Diné college students who are concerned about how to pay for college related and other required expenses may experience increased academic stress when completing academic tasks. This result suggests that Diné college students who are not financially supported while in college or are being "stretched" financially in order to go to college are more likely to experience additional stress beyond academic responsibilities. Lee et al. (2010) found that financial difficulties (e.g., not enough financial aid, limited or no financial support from family) lead to inability to support self which lead to finding employment or increasing work hours while in college which affected academic performance among AIAN students. Although Lee et al. did not examine academic stress, financial concerns that are associated with navigating

42

multiple jobs or increased work hours while sustaining academic responsibilities can be viewed as academic stressors (e.g., limited time to study, incomplete work, fatigue). In the current study more financial concerns was associated with academic stress among Dine' college students.

As noted in previous research, when Native Americans utilize cultural practices such as participating in cultural related activities like weaving a traditional rug or participating in a traditional ceremony, harmony can be restored thus lessening experienced stress. Diné College students who are culturally involved in their tribal traditions such as attending ceremonies were likely to experience less stress.

It should be noted that when family support for education, financial concerns, and cultural involvement were entered together into the hierarchical multiple regression, they did not predict academic persistence decisions for this sample. In addition, investigation into each variable indicated that each of these individual level variables (Tinto, 1987) alone did not predict academic persistence for this sample. These results do not support the literature that financial concerns are related to academic persistence decisions (Dell, 2000; Flynn et al., 2012; Guillory & Wolverton, 2008; Hoffmann et al., 2005; Lee et al., 2010). This finding could be attributed to the relatively low cost of tuition to Diné College (i.e., Fall 2018 tuition: $660), which is more affordable compared to the expense of attending a major southwest college institution (i.e., Fall 2018 tuition: $4,917) off the reservation. In addition, students may live with family members near campus, which could minimize additional living expenses while attending Diné College. Mendez et al. (2011) found that Native American students who reported having a $40,000 income and who also received financial aid were more likely to persist in college; the median parental

income for this sample was above $40,000. However, it is unknown whether families provided financial support for college for this sample.

Additionally, previous literature has found mixed results about family support predicting academic persistence. Some studies have found family support to be important to academic persistence (Atkinson & Hackett, 2004; Bingham et al., 2014; Flynn et al., 2012; Guillory & Wolverton, 2008; Thompson et al., 2013), while other studies have found family support to affect negatively academic persistence (e.g., family responsibilities, prioritizing family over education, etc.) and academic success (Bingham et al., 2014; Dell 2000; Flynn et al., 2012; Guillory & Wolverton, 2008; Makomenaw, 2014). Previous research has also found that when family does not value a college education this can affect academic persistence among Native American college students (Bingham et al., 2014; Deyhel & Margonis; 1995; Jackson et al., 2003; Makomenaw, 2014; Tseng, 2004). Again, the limited variance and high overall mean for family support for education may have statistically prevented any association of family support for education and academic persistence decisions.

Although cultural involvement was related to academic stress, it was not related to academic persistence decisions. Previous research found mixed results about the influence of cultural involvement on academic persistence decisions. Jackson et al. (2003) found that cultural practices such as participation in ceremonies to be connected to academic persistence, while other previous research has found that students who reported a strong connection to their culture were more likely to struggle on campus (Huffman, 2008) and less likely to experience academic success (Scott, 1986). The current nonsignificant finding may be due to the success of cultural integration on Diné College

44

campuses. In addition, Diné culture is interwoven into daily life on the reservation in many ways beyond student life at Diné College. Diné students who attend college off the reservation at a predominately White university may depend more on cultural involvement as a link to their home and culture to persist in college. Although there was little variance in cultural involvement, the mode was 5 out of 5 and the mean was 3.67 which indicated that the majority of Diné students were involved in the traditions of their culture. This limited the opportunity to assess how minimal cultural involvement was related to academic persistence.

Hypothesis two, predicted that the addition of ethnic identity would increase the accounted for variance in predicting academic stress and academic persistence decisions. The addition of ethnic identity (private regard) did not increase the accounted variance in predicting academic stress. This result was not consistent with previous research that found ethnic identity predicted less academic stress for Native American students (Chee et al., in press; Huffman, 2001). Private regard was not a significant predictor for academic stress for Diné college students. This finding did not support Huffman's (2001) finding that suggested Native Americans who have strong connection to their culture are more likely to utilize their ethnic identity as a strength to help them manage difficult (stressful) situations while in college. Private regard is important to Diné College students as the majority reported high levels of private regard. The mean was 5.91 out of 7 possible that suggests a ceiling effect. This result may have limited the opportunity to assess how increased ethnic identity (private regard) was related to decreasing academic stress. Additionally, Diné College students may feel less concern about their ethnic identity since the dominant student population on campus is Diné and the campus is

located on the Navajo reservation. Choosing to attend Diné College may reflect the

private regard aspect of their ethnic identity. Self-esteem, which has been defined as

one's overall sense of self-worth (Rosenberg, 1965), has been found to be associated with

private regard (Chee et al., in press) and an important factor in coping with difficult

situations. As noted in previous research, positive self-perceptions may affect

perceptions of academic stress (Dixon & Robinson-Kurpius, 2008). It is likely that

strong private regard (similar to high self-esteem) could have served as an additional

protective factor for academic stress. Also, given that these students were attending a

tribal college located on Native American land, perhaps they were less likely to

experience more general stressful situations such as discrimination and racism that Native

American students may encounter at a predominately White campus.

In hypothesis two, the addition of ethnic identity also increased the accounted for

variance in academic persistence decisions. This result corroborates previous research

that found ethnic identity predicted academic persistence decisions (Huffman, 2001;

Okagaki et al., 2009). Further investigation into the model found private regard to be a

significant predictor for academic persistence decisions while centrality was not. The

lack of association of centrality and academic persistence may be due how one perceives

oneself as Dine' by choosing to attend a Dine' College where are the majority of students

consist of Diné students. As just noted above, it is possible that centrality of one's

ethnicity is less relevant in this setting as students have already identified as Diné by

choosing to attend this college. The majority of Diné College students reported high

levels of private regard which indicates these students have strong positive personal

attitudes about their ethnic identity. This strong sense of personal identity was linked to

46

their commitment to obtaining their college degree. In his theory, Tinto (1987) noted that individual attributes have a positive effect on academic persistence decisions. This may suggest that Diné students with a strong ethnic identity are likely to utilize this attribute as a strength to persist in college.

Hypothesis three predicted that academic self-efficacy would increase the accounted for variance in predicting academic stress for Diné College students. The addition of ASE increased the accounted for variance in the prediction of academic stress. This result is consistent with previous research (Chemers et al., 2001; Gigliotti & Huff, 1995; Hackett et al., 1992; Solberg et al., 1993; Solberg & Villarreal, 1997; Torres & Solberg, 2001; Zajacova et al., 2005). ASE explained significant variance above and beyond that of any other variables in the regression model when predicting academic stress. The more students believed they could accomplish the academic tasks required of students, the less stress they experienced related to academics. Previous research has found ASE to be associated with self-esteem (Dixon & Robinson Kurpius, 2008; Gloria & Robinson Kurpius, 2001), and in the current study private regard was positively related to ASE. These results suggest that when Diné college students in this sample believed in their ability to complete academic tasks, they experienced less stress about these academic tasks.

When predicting academic persistence decisions, it was hypothesized that the addition of ASE would increase the accounted for variance in academic persistence decisions, with higher ASE related to more positive persistence decisions. This result was consistent with previous literature that found ASE to be associated with academic persistence decisions (Gloria & Robinson Kurpius, 2001; Rindone, 1988; Thompson et

47

al., 2013) among American Indian students. ASE explained significant variance above and beyond that of any other variable in the regression model. This result suggests that when Diné college students in this sample have confidence in their ability to complete academic responsibilities (e.g., writing a paper, getting a good grade on an exam and/or course, etc.), they are more likely to make positive academic persistence decisions.

For hypothesis four, the addition of academic stress to the regression predicting academic persistence decisions did not increase the accounted for variance. Academic stress was not related to academic persistence decisions which is inconsistent with previous research (Chemers et al., 2001; Torres & Solberg, 2001; Zajacova, 2005). Further investigation into the full model found ASE to be the only significant predictor of academic persistence decisions. Since Diné College students reported high levels of ASE it is likely that strength of ASE negated academic stress as a factor in making academic persistence decisions (e.g., write course papers, do well on an exam, etc.) for this sample.

Limitations

A limitation for this study was that the responses to the instruments were all self-report. In addition, there was little variance in several of the variables such as family support for education, cultural involvement, and financial concerns. The limited variance may have affected the regression results. Few individuals reported low scores on family support for education, cultural involvement and financial concerns. Family support for education was found to have the least variance, with 90% of the sample reporting high family support.

Another limitation was that when measuring for Ethnic Identity, one private regard item ("Overall, I often feel that Diné are not worthwhile") was mistakenly left off

and another item ("I am proud to be Diné) was inadvertently added to scale. In addition, when completing the test-retest for financial concerns, the first data collection was completed in the middle of month while the second data collection during the first week of the month. The timing of the data collection may have affected the financial concerns of Diné college students because students may been had more financial concerns after paying for first of the month invoices.

Another limitation was that the majority of the sample for this study were from Tsaile campus (N = 172) while few were from the Shiprock campus (N = 37). It is unknown whether students may have had different college experiences due to geographical location and other campus related factors. Also, only Diné students at the Diné College were studied, which limits generalizability. To achieve greater understanding of how non-cognitive factors affect Diné college students, it may be worth comparing Diné students on a Navajo reservation college and Diné students at a predominately White college campus. Furthermore, the role of parental income on financial concerns was not addressed. Finally, since self-esteem has been found to be associated with private regard, an aspect of ethnic identity, among Native American students, self-esteem as a general self-worth construct along with the private regard aspect of ethnic identity should be considered among Diné undergraduates.

CONCLUSIONS

Academic self-efficacy was found to be a strong predictor of academic persistence decisions and academic stress. Diné College students reported strong family support for education and had strong positive attitudes about their personal tribal identity. Understanding the significance of both ASE and family support for education among

Diné undergraduate students could be helpful in encouraging academic persistence and educational attainment. This study could help counseling psychologists better understand Diné students who are enrolled in higher education. The results can potentially provide direction for treatment planning and intervention development when providing counseling services to this population. Counseling psychologists can assess and plan interventions to increase academic self-efficacy for Diné students since this study has indicated the importance of this factor in predicting academic stress and academic persistence decisions. Counseling psychologists should be prepared to work with Dine' students to find effective ways to decrease their academic stress and increase their persistence decisions. It is also important to understand the role of ethnic identity, cultural involvement, and financial situation on the academic lives of Diné students. Specially, as a coping mechanism to reduce academic stress, counseling psychologists can help Diné students connect and engage in cultural related activities since cultural involvement was found to be negatively related to academic stress. This intervention may be helpful to Diné students who report a strong identification with their Diné tribe. Counseling psychologists should also explore and evaluate sense of identity with the Diné tribe for Diné students since it could be helpful in decreasing academic stress and increasing academic persistence decisions. Native American students are likely to experience financial difficulties while in college; therefore, it is important for counseling psychologists to assess for financial concerns and explore potential financial resources when working with Diné students. Diné students need to be well funded while in college so financial concerns do not interfere their confidence (self-efficacy) in their abilities to

50

complete academic tasks which then influence their academic stress and persistence decisions.

Tierney (1999) found Tinto's (1987) College Departure theory to ignore cultural considerations for minority students that included Native Americans. Diné college students' unique cultural traditions and practices may affect how they perceive and manage academic stress or make academic persistence decisions. Tinto emphasized the importance of student commitment to academic or occupational goals to increase one's persistence to complete college. Tinto's theory also emphasized individualistic values while Native Americans adopt collectivistic values. Ferguson and Huffman (2018) found that Native Americans' desire and commitment to serve their community is a reason for persisting in college. This needs to re-examined in future research.

Native American students are at great risk for college departure and the lack of a college degree continues to contribute to major issues in Native American communities such as poverty, mental health concerns, and unsatisfactory career. This study could be helpful in providing information that could decrease academic stress and increase academic persistence decisions among Diné College students which could lead to increased college degree attainments and to a better quality of life.

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APPENDIX A

IRB DOCUMENTS

Dear Diné Student,

My name is Gerald Shorty, and I am a doctoral student in the Counseling Psychology program at Arizona State University. Under the supervision of Dr. Sharon Robinson Kurpius, I am examining the factors that influence the academic persistence decisions of Diné students. I am requesting your participation in completing the study survey that could take about 15 to 20 minutes. Participation in this study is voluntary and will not affect your grades in any class. Participation is voluntary. Your name will not be used in any way. To protect your confidentiality, no identifying information will be attached to the surveys. You will receive a separate form to complete if you want to be entered into the drawing for one of three $25 Walmart gift cards.

Although there may be no direct benefit to you, a possible benefit of your participation could be knowing that the results of this study will contribute to our knowledge about factors related to the academic success of Diné college students. There are no known risks to your participation. Furthermore, you may withdraw from this study at any time for any reason.

Should you have any questions concerning this research study, please call me at 505-269-5121. If you have any questions about your rights as a participant in this research or if you feel you have been placed at risk, you can contact the Chair of the ASU Human Subjects Institutional Review Board at (480) 965-6788.

By filling out the questionnaire, you consent to participate in the above-described study.

Sincerely,

Gerald Shorty, M.A.
Counseling Psychology
Arizona State University

EXEMPTION GRANTED

Sharon Kurpius
CISA: Counseling and Counseling Psychology
480/965-6104
sharon.kurpius@asu.edu

Dear Sharon Kurpius:

On 2/23/2017 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Academic Persistence Among Navajo College Students at Dine' College
Investigator:	Sharon Kurpius
IRB ID:	STUDY00005590
Funding:	None
Documents Reviewed:	• Consent Form, Category: Consent Form; • Cita Form 2 (Gerald Shorty), Category: Other (to reflect anything not captured above); • Citi Form (Sharon Kurpius), Category: Other (to reflect anything not captured above); • Citi form 2 (Gerald Shorty), Category: Other (to reflect anything not captured above); • Measures and Approval Letters - Combined, Category: Other (to reflect anything not captured above); • Recruitment Script, Category: Recruitment Materials; • HRP-503a Protocol Template Social Behavior, Category: IRB Protocol; • Citi Form 1 (Gerald Shorty), Category: Other (to reflect anything not captured above);

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 2/23/2017.

RUSSELL BEGAYE PRESIDENT
JONATHAN NEZ VICE PRESIDENT

March 22, 2017

Gerald Shorty, M.A.
Arizona State University
1000 Forest Mall, Payne Hall 446
Tempe, Arizona 85287

Dear Mr. Shorty,

This is to advise you that the **Study #NNR-17.271T: "Academic Persistence Decisions among Navajo Undergrades at Dine' College "** has been presented to the Navajo Nation Human Research Review Board (NNHRRB) on **March 21, 2017**, and the following action taken subject to the conditions and explanation provided below.

Reasons:	New Application
Description:	Request Review and Acceptance of New Protocol
NNHRRB Action:	Accepted and Approved - From March 21, 2017 – March 21, 2018 period
Conditions:	P.I. Submit Revised Consent Forms, and submit copy of Thesis to NNHRRB, With All Standard Conditions.

The Navajo Nation Human Research Review Board has added a very important additional contingency regarding failure to comply with NNHRRB rules, regulations, and submittal of reports which could result in sanctions being placed against your project. This could also affect your funding source and the principal investigator. Under Part Five: Certification, please note paragraph five wherein it states: *"I agree not to proceed in the research until the problems have been resolved or the Navajo Nation Human Research Review Board has reviewed and approved the changes."* Therefore, it is very important to submit quarterly and annual reports on time and if continuation is warranted submit a letter of request sixty (60) days prior to the expiration date.

The following are requirements that apply to all research studies:

1. The Navajo Nation retains ownership of all data obtained within its territorial boundaries. The Principal Investigator shall submit to the NNHRRB a plan and timeline on how and when the data/statistics will be turned over to the Navajo Nation;
2. Only the approved informed consent document(s) will be used in the study;
3. Any proposed future changes to the protocol or the consent form(s) must again be submitted to the Board for review and approval prior to implementation of the proposed change;
4. If the results of the study will be published or used for oral presentations at professional conferences, the proposed publication, abstract and/or presentation materials must be submitted to the Navajo Research Program for Board review and prior approval;
5. Upon Board approval, three (3) copies of the final publication must be submitted to the Navajo Research Program;
6. All manuscripts must be submitted to the Navajo Research Program for Board Review and prior approval;
7. The Principal Investigator must submit a dissemination plan on how the results of the study and how these results will be reported back to the Navajo Nation;

Diné College
Nitsáhákees (Thinking)
Naha'tá (Planning)
Iiná (Living)
Siihasin (Assuring)

INSTITUTIONAL
PLANNING & REPORTING
DINÉ COLLEGE · NAVAJO NATION
Creating a Culture of Evidence

Research Approval Memo

Velveena Davis, Executive Director
Office of Institutional Planning and Reporting (OIPR)
Diné College
PO Box C-33
Tsaile, Arizona 86556
veldavis@dinecollege.edu
928.724.6846

January 19, 2017

Gerald Shorty
1440 East Broadway Road Apt 1183
Tempe, AZ 85282

SUBJECT: Approval for Dissertation Research Study on the Diné College Campus

Thank you for your recent request to conduct an on-site campus research under your dissertation proposal titled *Academic Persistence among Dine' College Students,* as a potential doctoral candidate in the studies of Philosophy from Arizona State University.

Upon review of your study and proposal, we are pleased to approve your research under the rules and guidance outlined by the Office of Institutional Planning and Reporting noted on the Research and Data Request Form. Our office has received your signed acknowledgement of these outlined rules and guidance while undertaking your on-site research at Diné College. See attachment.

During your research at Diné College, the Office of Institutional Planning and Reporting will serve as your primary Point of Contact. As required under our research guidelines, prior to your arrival to Diné College, please submit to our office your Plan of Action as outlined in the Research and Data Request Form and a copy of the your Research Approval memo issued by the Navajo Nation Human Research Review Board.

Any question that you may have during your research at Diné College, please do not hesitate to contact our office.

Congratulations on your approval and we look forward to working with you.

Approval:

Velveena Davis, Executive Director, OIPR

CC: Dr. Martin Ahumada, Academics Affairs Provost
Glennita Haskey, Vice President of Student Affairs

Tséého'lí	TóDzis'á	Tsézhine

Zane P. James, President
Thomas Litson, Grazing Committee

David Kedelty, Vice President

Margie R.S. Begay, Secretary/Treasurer
Nelson Begaye, Council Delegate

TWFY16-107

RESOLUTION OF THE
TSAILE/WHEATFIELDS CHAPTER #038

SUPPORTING THE DISSERTATION RESEARCH AT DINE COLLEGE FOR ACADEMIC PERSISTENCE DECISION.

WHEREAS:

1. Pursuant to Navajo Nation Council Resolution No. CJ-20-55, dated December 2, 1955, the Tsaile/Wheatfields Chapter is vested with authority and charged with the responsibility to promote, protect and preserve the interest and general welfare, including the health and safety of its community people; and

2. The Indian Self-Determination Act (P.L. 93-638) of the U. S. Congress and Local Governance Initiatives entitles and support us, Navajo Indians, in initiating plans making decisions, recommendation, request, etc., according to our actual needs and desires; and

3. The Tsaile/Wheatfields Chapter is aware of the approval to conduct the research from the Dissertation Committee at Arizona State University; and

4. The Tsaile/Wheatfields Chapter supports the research to determine how the factors such as Academic Stress, Academic Self-Efficacy, Ethnic Identity, Cultural Involvement, Financial Support relates to Academic Persistent Decision; and

5. The Dine College supports and approve the study to be conducted on their campus, with the approval of Tsaile/Wheatfields Chapter approved resolution.

NOW THEREFORE IT BE RESOLVED THAT

1. The Tsaile/Wheatfield Chapter hereby approves and support the Dissertation Research at Dine College for Academic Persistence Decision.

C E R T I F I C A T I O N

I, hereby certify the foregoing resolution was duly considered by the Tsaile/Wheatfields Chapter at a duly called meeting at Wheatfields, Arizona at which a quorum was present and the same was passed by a vote of **22** in favor, **00** opposed, and **08** abstained on this **15**th day of **August**, **2016**.

Motion by: Melvin Gatewood   Second by: Thomas Litson

Zane James, President

Resolution of the Shiprock Chapter

SHIPROCK, NAVAJO NATION

SUPPORTING THE DISSERTATION RESEARCH STUDY BY GERALD SHORTY

WHEREAS:

1. The Shiprock Chapter of the Navajo Nation acts on this resolution pursuant to the authority conferred upon the chapter through Navajo Nation Code Title 26, Chapter 1, Section 1, Part B which states, "Through adoption of this Act, the Navajo Nation Council delegates to chapters governmental authority with respect to local matters consistent with Navajo Nation laws, including customs and tradition" and the inclusivity provided by the Diné Fundamental Law, in that "it is entirely appropriate for the government itself to openly observe these fundamental laws"; and

2. The Shiprock Chapter receives periodic requests for the support of certain college dissertations and thesis' studies that require the review and approval of the Navajo Investigative Review Board, and

3. The Shiprock Chapter membership has received such a request from Mr. Gerald Shorty from the Arizona State University who wishes to do a Dissertation Research study at Diné College on Academic Persistence Decisions, and

4. The objective of the research is to determine how the factors such as Academic Stress, Academic Self-Efficacy, Ethnic Identity, Cultural Involvement, Financial Support and Family Support relate to Academic Persistence Decisions. The intent is to learn more about what helps Navajo Students stay in college at Dine' College. The findings can assist Dine' College to improve retention and to help Navajo students graduate from college.

NOW, THEREFORE, BE IT RESOLVED THAT:
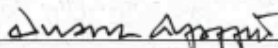
The Shiprock Chapter membership hereby supports Mr. Gerald Shorty on his proposed Dissertation Research study at Diné College on Academic Persistence Decisions at Dine' College and further respectfully requests the Navajo Investigative Review Board to approve the research study for Mr. Gerald Shorty.

Motioned by: Harrison Todacheene   Seconded by: Wallace Ben

CERTIFICATION

We, the undersigned hereby certify that the foregoing resolution was duly presented and considered at a duly called Chapter Meeting, at which a quorum was present and that the same was approved by a vote of 52 in favor and -0- opposed and 3 abstentions on the 24th day of July, 2016 in Shiprock, Navajo Nation.

Duane H. Yazzie, President   Tommie Yazzie, Vice-President

Dr. J. Kaibah Begay, Secretary/Treasurer   Tom Chee, Council Delegate

APPENDIX B

STUDY INSTRUMENTS

DEMOGRAPHICS SHEET

Age: _____   Gender: ___Male ___ Female   Semester and Year in college:_____

Self-Identification: _____ Dine' ____Other (specify)_____
          Biracial (specify):_____

Are you currently employed: ___Yes ___No

I live: ___off campus alone ___off campus with roommate ___off campus with family
___on campus

What is your career goal? _____

What is your mother's (mother figure) highest level of <u>completed</u> education:

___ Some grade school ___High school or GED___ Vocational/technical school
___ 2-year college degree (A.A.) ___4-year college degree (B.A., B.S.) ___ Master's degree
___ Professional degree (M.D., Ph.D., J.D.)

What is your father's (father figure) highest level of <u>completed</u> education:

___ Some grade school ___High school or GED ___ Vocational/technical school
___ 2-year college degree (A.A.) ___ 4-year college degree (B.A., B.S.) ___ Master's degree
___ Professional degree (M.D., Ph.D., J.D.)

Parental yearly income during your last year of high school:

___ $1-9,999   ___ $20-29,999   ___ $40-49,999   ___ $60,000 -69,999
___ $10-19,999   ___ $30-39,999   ___ $50,000- 59,999   ___ $70,000 or more

What is the primary language spoken in your home? _____

How much do <u>you</u> value a college education?   Not at all   Very Much

                                                            1   2   3   4   5

Please indicate the extent to which you agree with each statement:

		Strongly Disagree				Strongly Agree
1	My parents support my seeking a college education.	1	2	3	4	5
2	My grandparents support my seeking a college education.	1	2	3	4	5
3	My parents think my getting an education is important.	1	2	3	4	5
4	My grandparents think my getting an education is important.	1	2	3	4	5
5	My brothers/sisters/cousins support my getting a college education	1	2	3	4	5
6	My brothers/sisters/cousins think my getting an education is important.	1	2	3	4	5

7	It is difficult to pay college tuition.	1	2	3	4	5
8	It is difficult to pay for college books.	1	2	3	4	5
9	It is difficult to pay for gas to attend college.	1	2	3	4	5
10	It is difficult to pay for school supplies.	1	2	3	4	5

COLLEGE STRESS

The following is a list of events that may be stressful for college students. Please indicate how stressful each is for you using the five-point scale ranging from (1) Not at all stressful to (5) Highly stressful.

	Not at all				Highly stressful
1. Too little time	1	2	3	4	5
2. Too little money	1	2	3	4	5
3. Getting ready in the morning	1	2	3	4	5
4. My weight	1	2	3	4	5
5. Not enough time to exercise	1	2	3	4	5
6. Conflicts with roommate	1	2	3	4	5
7. Poor quality of teaching	1	2	3	4	5
8. Constant pressure of studying	1	2	3	4	5
9. Not enough close friends	1	2	3	4	5
10. Too little intimacy	1	2	3	4	5
11. Getting to class on time	1	2	3	4	5
12. Transportation hassles	1	2	3	4	5
13. Quality of meals	1	2	3	4	5
14. Future plans	1	2	3	4	5
15. Work-related stressors	1	2	3	4	5
16. Tensions in love relationships	1	2	3	4	5
17. Conflict with family	1	2	3	4	5
18. Missing my family	1	2	3	4	5
19. Being lonely	1	2	3	4	5
20. Being unorganized	1	2	3	4	5
21. Too little sleep	1	2	3	4	5
22. Taking tests	1	2	3	4	5
23. Writing papers	1	2	3	4	5
24. Domestic responsibilities	1	2	3	4	5

25. Worrying about grades	1	2	3	4	5
26. Peer pressure to drink, smoke or do drugs	1	2	3	4	5
27. Having to repay student loans	1	2	3	4	5

CULTURAL INVOVEMENT

Please indicate the extent to which you agree with each statement on the following scale.

	Strongly Disagree				Strongly Agree
1. I participate in Diné ceremonies	1	2	3	4	5
2. I can name the Four Sacred Mountains in Diné culture.	1	2	3	4	5
3. I can speak the Diné language	1	2	3	4	5
4. I am familiar with traditional Diné ceremonies	1	2	3	4	5
5. I pray to the Holy People	1	2	3	4	5
6. I know how plants are used traditionally	1	2	3	4	5
7. I can introduce myself with my four personal identifying Diné clans.	1	2	3	4	5
8. I eat Diné traditional foods (e.g., blue corn mush, mutton stew, etc.)	1	2	3	4	5
9. I occasionally dress in traditional Diné attire (e.g., moccasins, Diné clothing, jewelry)	1	2	3	4	5
10. I know about the Diné Creation Story	1	2	3	4	5

EDUCATIONAL BELIEFS

Assuming that you are motivated to do your best, please indicate how confident you are that you could successfully do the following tasks. Circle NA (not applicable) if the task no longer applies to you. How **confident** are you that you could:

	Not at all						Extremely Confident
1. Research a term paper.	1	2	3	4	5	6	7
2. Write course papers.	1	2	3	4	5	6	7
3. Do well on your exams.	1	2	3	4	5	6	7
4. Take good class notes.	1	2	3	4	5	6	7
5. Keep up to date with your schoolwork.	1	2	3	4	5	6	7
6. Manage time effectively.	1	2	3	4	5	6	7
7. Understand your textbooks.	1	2	3	4	5	6	7
8. Participate in class discussions.	1	2	3	4	5	6	7
9. Ask a question in class.	1	2	3	4	5	6	7
10. Talk to your professors.	1	2	3	4	5	6	7
11. Talk to college staff.	1	2	3	4	5	6	7
12. Ask a professor a question.	1	2	3	4	5	6	7

ETHNIC IDENTITY

What is your racial/ethnic self-identification?
___ Native American (Tribe: _____)
___ Biracial (please specify): _____

Indicate your answers to the following questions based on your above self-identification. Rate each item from:

(Strongly Disagree)		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**(Strongly Agree)**
SD									**SA**

		SD						SA
1.	Overall, being Diné has very little to do with how I feel about myself.	1	2	3	4	5	6	7
2.	In general, being Diné is an important part of my self-image.	1	2	3	4	5	6	7
3.	My destiny is tied to the destiny of other Diné people.	1	2	3	4	5	6	7
4.	Being Diné is unimportant to my sense of what kind of person I am.	1	2	3	4	5	6	7
5.	I have a strong sense of belonging to Diné people.	1	2	3	4	5	6	7
6.	I have a strong sense of attachment to other Diné people.	1	2	3	4	5	6	7
7.	Being Diné is an important reflection of who I am.	1	2	3	4	5	6	7
8.	Being Diné is not a major factor in my social relationships.	1	2	3	4	5	6	7
9.	I feel good about Diné people.	1	2	3	4	5	6	7
10.	I am happy that I am Diné.	1	2	3	4	5	6	7
11.	I feel that Diné have made major accomplishments and advancements.	1	2	3	4	5	6	7
12.	I believe that because I am Diné, I have many strengths.	1	2	3	4	5	6	7
13.	I often regret that I am Diné.	1	2	3	4	5	6	7
14.	I am proud to be Diné.	1	2	3	4	5	6	7
15.	Diné contribute <u>less</u> to society than others.	1	2	3	4	5	6	7

ACADEMIC DECISIONS

Please indicate the extent to which you agree with each statement on the following scale:

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5

		SD	D	N	A	SA
1.	Since coming to this college I have developed close personal relationships with other students	1	2	3	4	5
2.	The student friendships I have developed at this college have been personally satisfying.	1	2	3	4	5
3.	My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes, and values.	1	2	3	4	5
4.	My interpersonal relationships with other students have had a positive influence on my intellectual growth and interests in ideas.	1	2	3	4	5
5.	It has been difficult for me to meet and make friends with other students.	1	2	3	4	5
6.	Few of the students I know would be willing to listen to me and help me if I had personal problem.	1	2	3	4	5
7.	Most students at this college have values and attitudes different from mine.	1	2	3	4	5
8.	My non-classroom interactions with faculty have had a positive influence on my personal growth, values, and attitudes.	1	2	3	4	5
9.	My non-classroom interactions with faculty have had a positive influence on my intellectual growth and interest in ideas.	1	2	3	4	5
10.	My non-classroom interactions with faculty have had a positive influence on my career goals and aspirations.	1	2	3	4	5
11.	Since coming to this college I have developed a close, personal relationship with at least one faculty member.	1	2	3	4	5
12.	I am satisfied with the opportunities to meet/interact informally with faculty.	1	2	3	4	5
13.	Few of the faculty members I have had contact with are generally interested in students.	1	2	3	4	5
14.	Few of the faculty members I have had contact with are generally outstanding or superior teachers.	1	2	3	4	5

15.	Few of the faculty members I have had contact with are willing to spend time outside of class to discuss issues of interest and importance to students.	1	2	3	4	5
16.	Most of the faculty I have had contact with are interested in helping students grow in more than just academic areas.	1	2	3	4	5
17.	Most faculty members I have had contact with are genuinely interested in teaching.	1	2	3	4	5
18.	I am satisfied with the extent of my intellectual development since enrolling in the college.	1	2	3	4	5
19.	My academic experience has had a positive influence on my intellectual growth and interests in ideas.	1	2	3	4	5
20.	I am satisfied with my academic experiences at this college.	1	2	3	4	5
21.	Few of my courses this year have been intellectually stimulating.	1	2	3	4	5
22.	My interest in ideas and intellectual matters has increased since coming to this college	1	2	3	4	5
23.	I am more likely to attend a cultural event (for example, a concert, lecture, or art show) now than I was before coming to this college.	1	2	3	4	5
24.	I have performed academically as well as I anticipated I would.	1	2	3	4	5
25.	It is important for me to graduate from college.	1	2	3	4	5
26.	I am confident that I made the right decision in choosing to attend this college.	1	2	3	4	5
27.	It is likely that I will register at this college next fall.	1	2	3	4	5
28.	It is not important to me to graduate from this college.	1	2	3	4	5
29.	I have no idea at all what I want to major in.	1	2	3	4	5
30.	Getting good grades is not important to me.	1	2	3	4	5

APPENDIX C

REGRESSION PREDICTING ACADEMIC STRESS WITH CENTRALITY

Hierarchical multiple regression predicting academic stress with centrality variable.

Variable	β	t	R	Adjusted R^2	ΔR^2	ΔF
Step 1			.32	.09	.10	7.64***
Family Support	-.11	-1.63				
Cultural Involvement	-.17	-2.52**				
Financial Concerns	.27	3.98***				
Step 2			.37	.12	.04	4.15*
Family Support	-.10	-1.42				
Cultural Involvement	-.18	-2.27*				
Financial Concerns	.26	3.88***				
Private Regard	-.24	-2.70***				
Centrality	.22	2.28*				
Step 3			.46	.19	.07	17.56***
Family Support	-.07	-1.07				
Cultural Involvement	-.14	-1.82				
Financial Concerns	.22	3.31**				
Private Regard	-.20	-2.25*				
Centrality	.22	2.41*				

Academic Self-Efficacy	-.28	-4.19***

*$p \leq 05$. **$p \leq .01$ ***$p \leq .001$