

UNIVERSITY OF OKLAHOMA
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DISCRIMINATION, DEPRESSION, AND DISTRESS: INVESTIGATING TRIBAL
ENGAGEMENT AS A PROTECTIVE FACTOR FOR NATIVE AMERICAN
UNDERGRADUATE STUDENTS

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DISCRIMINATION, DEPRESSION, AND DISTRESS: INVESTIGATING TRIBAL
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Table of Contents

Acknowledgements	v
Abstract	vi
Overview of Native American Context	1
Contributions of the Present Study	2
Theoretical Frameworks	3
<i>The Transactional Model of Stress and Coping</i>	3
<i>Tribal Critical Race Theory</i>	4
Discrimination, Depression, and Distress	5
<i>Subtle vs Explicit Discrimination</i>	5
<i>Discrimination and Depression</i>	7
<i>Discrimination and Distress: Social and Academic Distress</i>	10
Tribal Engagement as a Protective Factor	15
<i>Who are the Native American Peoples?</i>	15
<i>What are Protective Factors?</i>	16
<i>Native American Tribes in Focus</i>	17
Method	22
<i>Participants</i>	22
<i>Procedure</i>	23
<i>Measures</i>	24
Results	26
<i>Preliminary Analyses</i>	26
<i>Factor Analytic Models</i>	27
<i>Proposed Model</i>	29
Discussion	33
<i>Strengths, Limitations, and Future Directions</i>	35
<i>Theoretical Contributions and Practical Implications</i>	37
<i>Conclusion</i>	38
References	39
Table 1	54
Table 2	55
Table 3	56
Table 4	57
Table 5	58
Table 6	59
Table 7	60
Table 8	61
Table 9	62
Table 10	63
Table 11	64
Figure 1	65
Figure 2	66
Figure 3	67
Figure 4	68

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Abstract

Native American university students are empirically understudied, especially with regard to their well-being. The current study uses the transactional model of stress and coping (Lazarus & Folkman, 1984) to explore the relationship between experiences of discrimination and negative well-being outcomes among Native American undergraduates. Further, reflecting findings that social support resources contribute positively to well-being outcomes, I explore the influence of Tribal engagement on Native American student well-being. Using data across two time points, the present study investigates the moderating role of Tribal engagement on the stressor-strain relationships between subtle and explicit discrimination (i.e., the stressors) and depression, social distress, and academic distress (i.e., the strains) on Native American undergraduate students. Findings support the protective role of Tribal engagement on Native American student well-being. Findings also support previous literature that demonstrated that subtle discrimination has a larger influence on strain outcomes than explicit discrimination. Theoretical contributions and practical implications for universities are discussed.

Discrimination, Depression, and Distress: Investigating Tribal Engagement as a Protective Factor for Native American Undergraduate Students

Overview of Native American Context

Native American peoples, or the Indigenous peoples of North America, have been subjugated to centuries of colonization, genocide, and ethnic cleansing. The historical trauma of the Native American peoples has often been cited as a factor that contributes to the disproportionate amount of psychological distress experienced by individuals of these communities (Gone, 2006). Compared to other racial and ethnic groups, Native American peoples have been found to have one of the highest levels of depression (Harman, 2017) and psychological distress (Bratter & Eschbach, 2005). Despite these concerning levels of depression and distress, research on predictors of depression and distress and how to mitigate these negative outcomes within a Native American population is lacking. Research suggests that discrimination is a critical predictor of depression and psychological distress in minoritized adults (Whitbeck et al., 2002). The limited literature on Native American peoples suggests that Tribal engagement (i.e., connection and involvement in a Tribe) may help buffer some of the negative effects of discrimination (Jaramillo et al., 2016; Shweigman et al., 2011).

Discrimination is prevalent in university settings, especially against the increasing body of minoritized students. Native American students' enrollment in university has dramatically decreased by 38% since 2010 (PNPI, 2024). Compared to other racial and ethnic groups, Native American students also have the lowest university graduation rates, receiving only 0.5% of bachelor's degrees awarded in 2022 (PNPI, 2024), marking the experiences of these students essential to understand when discussing university research and programming. Generally, research on undergraduate students lacks a focus on Native American students. This

phenomenon is known as the Native American Research Asterisk where Native American individuals are often grouped in catchall categories representing ‘other’ races or dropped from analyses due to small sample sizes (Shotton et al., 2013). To best address this research gap, the present study utilizes a Native American student population from a large university in the south-central U.S. to explore discrimination and well-being outcomes as well as explore the potential protective effects of Tribal engagement.

The transactional model of stress and coping, also known as the stressor-strain model, describes the process Native American students may use to appraise stressors and available coping resources as they encounter them in university (Lazarus & Folkman, 1984). Past research indicates the importance of community and social support resources in coping with adverse, discriminatory experiences, especially for minoritized individuals (Noh & Kasper, 2003; Ahmed et al., 2011; Spence et al., 2016). However, little to no empirical research has examined the social support influence of Tribal engagement on the stressor-strain relationships of discrimination and its outcomes of depression and distress. Thus, the purpose of the current study is to investigate how the moderating effect of Tribal engagement may buffer the negative effects of subtle and explicit discrimination and help alleviate depressive symptoms, social distress, and academic distress in Native American undergraduate students.

Contributions of the Present Study

The present study contributes to the literature on Native American communities in several ways. First, this study focuses on the strengths of Tribal communities and identification with these communities and how these strengths may contribute to positive psychological well-being. Second, previous studies focusing on the strengths of Native American communities (Kenyon & Carter, 2011) have been cross-sectional, but the current study deepens our

understanding of Tribal engagement as a protective factor in a time series design over two timepoints. Third, the current study adds to the limited literature that differentiates between subtle and explicit forms of discrimination to explore the variation of experiences as it relates to Native American undergraduate students. Finally, the present study builds upon previous research and theory (Kenyon & Carter, 2011; Houkamau & Sibley, 2011, 2015; Stuart & Jose, 2014) that posits building a connection to one's community and ethnic identity will improve psychological well-being; notably, addressing calls from Native American scholars, this study centers Native American perspectives in discussion of Tribal engagement. Therefore, there are implications for community or university interventions based upon the notion that that Tribal engagement serves as a protective factor for Native American undergraduate students.

Theoretical Frameworks

The Transactional Model of Stress and Coping

The current study utilizes the transactional model of stress and coping by Lazarus and Folkman (1984) as a theoretical framework to depict how stressors may impact outcomes and how resources may help individuals cope with stressors. First, an individual enters the primary appraisal process where they perceive the stressor. Next, in the secondary appraisal process, they consider the perceived resources that are available to be able to cope with the perceived stressor. These resources may be internal (i.e., self-discipline, self-esteem) or external (i.e., family support, community support). Afterward, individuals cognitively weigh out the stressor with the resources and evaluate their ability and strategy to cope with the stressor. An individual with the perception of adequate resources will be able to positively cope or be resilient in the face of stressors. An individual perceiving a lack of resources will become overwhelmed by the stressor

resulting in the development of negative outcomes. The current study focuses on perceived subtle and explicit discrimination as the stressors, depression, social distress, and academic distress as the outcomes, and Tribal engagement as the buffer impacting the relationship between discrimination and the aforementioned well-being outcomes. Specifically, Tribal engagement will act as a community or social support aiding in the perception of adequate resources to be able to overcome adversity. As such, the current study will expand beyond the transactional model of stress and coping by investigating the moderating influence of Tribal engagement on the proposed stressor-strain relationships for Native American undergraduate students.

Tribal Critical Race Theory

The present study is also informed by Tribal Critical Race Theory (TribalCrit), which describes the historical and structural influences that impact Native American communities today and ways institutions can uplift these communities. TribalCrit asserts that colonization and Eurocentric ideologies continue to be prevalent in Western societies such that they infiltrate policies that impact Native American individuals, especially in education (Brayboy, 2005; 2013). This framework will be discussed later in detail to understand the unique social support effects of Tribal engagement for Native American students. Incorporating TribalCrit as a guiding theoretical framework addresses adamant calls to center Native American perspectives (Brayboy, 2005; 2013; Brayboy et al., 2015; Waterman & Lindley, 2013; Garrouette, 2003) to help inform researchers and educators on methods that best serve Native American student well-being.

The present study aims to highlight the experiences of Native American undergraduate students and the support systems they may turn to when exposed to stressors. In the following sections, I will first review the literature on the stressor by comparing and contrasting subtle and explicit forms of discrimination. Then, I will showcase a connection between these forms of

discrimination and depression and how this association impacts Native American undergraduate students. I will follow a similar pattern for the next two strain variables in the model: social and academic distress. Afterward, I will provide support for Tribal engagement as a social support resource in the model, indicating that Tribal engagement will serve as a protective factor that buffers the stressor-strain relationship for Native American undergraduate students.

Discrimination, Depression, and Distress

Subtle vs Explicit Discrimination

Discrimination is associated with negative well-being outcomes for minoritized individuals. Many studies measure discrimination globally, not distinguishing between different types, or measure a single type. However, recent literature has distinguished between two major types of discrimination: subtle and explicit discrimination. Subtle discrimination includes behaviors such as excluding a member from a group or disregarding remarks an individual makes as compared to the attention they give to others (Snyder et al., 2010); these behaviors are often integrated into the norms of social acceptability and may not be viewed as legitimate discrimination (Snyder et al., 2010; Jones et al., 2016). Although behaviors of subtle discrimination may marginalize individuals, these acts are often overlooked, leading to their persistent nature (Van Laer & Janssens, 2011). In fact, individuals may experience several acts of subtle discrimination over time and these behaviors have been found to have detrimental effects on employees (Gifford, 2009). In the literature, experiences of subtle discrimination may also be termed incivility (Schilpzand et al., 2016), interpersonal discrimination (Hebl et al., 2002), day-to-day discrimination (Kessler et al., 1999; Taylor & Turner, 2002), or microaggressions (Sue et al., 2007).

Explicit discrimination refers to obvious acts of unequal and harmful treatment against an individual or group (Snyder et al., 2010; Jones et al., 2016). Examples of these behaviors include derogatory language or prohibition of individuals from opportunities of employment or education. These behaviors are often prohibited under federal or state law and school or organizational policy (Cascio & Aguinis, 2024). Because these behaviors are often illegal, individuals may experience fewer of these acts (Brief et al., 1997). However, as explicit discrimination on the basis of race, or racial discrimination, includes any differential or unfair treatment of individuals based on their racial identification (Findling et al., 2019), many other behaviors may also fall into this category. For Native American students, these experiences may take the form of racial slurs, ignorant phrases, and offensive behaviors that are rooted in stereotypes or ignorance of historical trauma; these experiences often do not receive legal or formal consequences. Experiences of explicit discrimination may also be termed overt discrimination (Jones et al., 2016), formal discrimination (Hebl et al., 2002), major discrimination (Kessler et al., 1999; Taylor & Turner, 2002), or racism (Hobson et al., 2022).

A meta-analysis has shown that both subtle and explicit discrimination are related to distress, and both forms are important to better understand the impact of discrimination on well-being (Jones et al., 2016). While research specifically on Native American populations is limited, past literature demonstrates the effects for a variety of marginalized populations. Crouter et al. (2006) found that explicit discrimination in the workplace was positively associated with depressive symptoms for Mexican American men. Explicit discrimination was also found to be related to decreased cardiovascular health in Black women but not White women (Guyll et al., 2001) and decreased levels of positive affect in Korean immigrants in Canada (Noh et al., 2007). Noh and colleagues (2007) also found in the same study that subtle discrimination more

significantly impacted psychological stress than explicit discrimination, posing that the ambiguity around subtle experiences elicits complexity in individuals' cognitive and emotional appraisals of the stressors, producing increased distress. Other studies demonstrate associations of subtle discrimination with decreased psychological well-being in working women (Lim & Cortina, 2005) and decreased cardiovascular health in Black adults (Thompson, 1999). Although both forms of discrimination are linked to decreased well-being outcomes, the ambiguous nature of subtle forms of discrimination may be more cognitively and emotionally taxing on individuals than explicit forms (Salvatore & Shelton, 2007). Individuals are mentally prepared to attribute explicit forms of mistreatment to external stereotypes of their group, but ambiguous forms may make it difficult to understand where, why, and if mistreatment is occurring because of personal or group characteristics (Salvatore & Shelton, 2007). The sum of this research suggests that while subtle and explicit discrimination both have negative associations with well-being outcomes, subtle discrimination may have a stronger, negative association than explicit forms.

Discrimination and Depression

Native American individuals experience high rates of depressive symptoms and psychological distress relative to other groups. For example, in a 2001 report, Native American individuals reported experiencing distress at a rate of 13% compared to the 9% of the general population (Office of the Surgeon General, 2001). In a report by the American Psychiatric Association (APA, 2017), Native American adults reported a mental illness within the past year at a rate of 21% compared to the 17.9% of the general population, and Native American children and adolescents reported the highest rates of depression and had the highest rates of lifetime major depressive episodes in comparison to other racial or ethnic groups (APA, 2017).

Furthermore, additional studies have found that Native American individuals have higher levels

of depressive symptoms compared with their White/European American counterparts (Harman, 2017; Bell et al., 2005).

Historical trauma is a critical contributor to these increased levels in Native American individuals (Brown-Rice, 2013; Brave Heart & Debruyn, 1998). Historical trauma is the collective, multi-generational trauma that is rooted in historical events such as forced relocation and assimilation as part of a pattern of violent colonization. Historical trauma elicits responses “including depression, unresolved grief, survivor guilt, excesses in cardiovascular disease and mortality, and violent deaths” (Baldwin et al., 2011, p. 1381; Brave Heart, 1999). Additionally, discrimination is a significant contributor to the psychological distress experienced by Native American individuals (Jaramillo et al., 2016). Despite the paucity, a few studies have found strong associations of perceptions of discrimination with depressive symptoms for Native American adults (Baldwin et al., 2011; Whitbeck et al., 2002).

A plethora of research has demonstrated the link between discrimination and depression across a variety of populations. Kessler and colleagues (1999) found that discrimination is highly prevalent in the United States, where 33.5% of individuals reported experiencing acts of explicit discrimination and 60.9% of individuals reported experiencing acts of subtle discrimination. Minoritized individuals are especially susceptible to encountering acts of discrimination and developing stress and depressive symptoms (Budhwani et al., 2015). Specifically, discrimination on the basis of racial/ethnic background was associated with diagnosed depression among other negative well-being outcomes (Noh et al., 1999; see Jackson et al., 2003). Two meta-analyses (Schmitt et al., 2014; Pascao & Smart Richman, 2009) investigating perceived discrimination found significant negative associations with depression and other negative well-being outcomes. Other studies also reported on the link between discrimination and depression and psychological

distress (Jones et al., 2016; Cassidy et al., 2004; Noh & Kaspar, 2003; Noh et al., 1999). For example, Cobb et al. (2017) found that subtle discrimination was significantly positively associated with depression for Latino/a adults in the United States. This association is also found in Latino/a undergraduate students (Pichardo et al., 2021). Other studies (e.g., Lorenzo-Blanco & Cortina, 2013; Moradi & Risco, 2006; Finch et al., 2000) provide support that discrimination is a significant stressor for Latino/a individuals and has positive associations with depressive symptoms. Researchers also found significant positive associations between perceived discrimination and depressive symptoms in Black youth (Simons et al., 2002; Seaton et al., 2008) and subtle discrimination and depressive symptoms for Black women (Ajrouch et al., 2010). Discrimination was also positively associated with depressive symptoms in Middle Eastern and North African undergraduate students (Abuelezzam et al., 2022) and Asian American and Pacific Islander undergraduate and graduate students (Chia-Chen Chen et al., 2014). Additionally, perceived discrimination is found to be significantly positively associated with depressive symptoms for Native American adults (Whitbeck et al., 2002) and depressive and anxious symptoms as well as substance use for Native American youth (Whitbeck et al. 2001).

However, empirical research on subtle and explicit discrimination toward Native American individuals, especially undergraduate students, is lacking (Jones & Galliher, 2015; Delafield, 2022). Thus, research on the effects of discrimination on Native American undergraduate students and ways to alleviate the consequences on academic and well-being outcomes is necessary in conversations regarding health promotion of Native American communities.

Lazarus and Folkman (1984) describe stressors as an occurrence that exceeds an individual's resources that eventually burdens their well-being. Therefore, the stressors of subtle

and explicit discrimination will tax an individual to increased levels of depression. Previous research suggests that discrimination is positively associated with depressive symptoms, with subtle discrimination potentially associated with more harmful outcomes (Jones et al., 2016).

Therefore, the initial hypotheses are proposed:

Hypothesis 1: Subtle discrimination (T1) will be positively associated with depression (T2) for Native American undergraduate students.

Hypothesis 2: Explicit discrimination (T1) will be positively associated with depression (T2) for Native American undergraduate students.

Hypothesis 3: The positive relationship between subtle discrimination (T1) and depression (T2) will be stronger than the positive relationship between explicit discrimination (T1) and depression (T2).

Discrimination and Distress: Social and Academic Distress

Distress comes in various forms: physical, emotional, psychological, or social. Distress is an individual's response to a stressor when the stressor overwhelms a person beyond their resources (Lazarus & Folkman, 1984). Notably, Lazarus and Folkman's (1984) stressor-strain model differentiates between stress and distress. Stress is the process in which the stressor (e.g., discrimination) impacts the strain, and distress is a type of strain. Thus, the current study will explore the influence of discrimination on Native American students including two specific forms of distress especially experienced at university: social distress and academic distress.

Discrimination can be an isolating experience. Discrimination on the basis of race or ethnicity may manifest as feelings of social exclusion and rejection, leading to social distress and detrimental health effects (Berger & Sarnyai, 2015), especially for ethnically minoritized individuals (Akdeniz et al., 2014; Hobson et al., 2022). Minoritized individuals who perceive

racial discrimination may feel socially threatened because of social exclusion and rejection, contributing to increased levels of social distress. These individuals may feel that they do not belong or fit in with members of the dominant or majority group. Discriminatory experiences may be associated with feelings of personal insecurities and social isolation (Brandt et al., 2022). Racial discrimination leads to chronic stress (Sellers et al., 2003), social distress (Hobson et al., 2022) and substantial physical and emotional distress (Anderson, 2013), increasing cortisol levels and having negative effects on hormonal and neural activity (Berger & Sarnyai, 2015; Akdeniz et al., 2014; Hobson et al., 2022). Furthermore, the social distress due to racial discrimination may contribute to health disparities found in ethnically minoritized individuals (Hobson et al., 2022).

The limited literature on social distress in minoritized groups focuses on the issues of discrimination and social threats as contributors to the health disparities that exist in these groups. Minority stress theory posits that individuals who are minoritized on the basis of an identity may experience discrimination and inequities that may negatively affect their physical and psychological well-being (Hobson et al., 2022). The theory further poses that the stressors of discrimination may lead to strain in a manner that is unique, chronic, and socially based. Because discrimination and inequities are often socially constructed phenomena, the effects of these stressors are often socially based as they induce feelings of social rejection and social isolation. Minority stress theory was initially used to conceptualize the discrimination and health disparities that exist in sexually-minoritized groups (i.e., individuals who identify as lesbian, gay, or bisexual). Minority stress theory has been applied to conceptualize the experiences of racially and ethnically minoritized groups, specifically in Black adults (Hobson et al., 2022; see James et al., 1992). Few empirical studies exist that establish the link between discrimination and social

distress. For example, Nora and Cabrera (1996) found that minoritized undergraduate students perceived discrimination and prejudice more than their White counterparts, and that this perceived discrimination negatively impacted social and academic integration in college. In other words, perceived discrimination was positively associated with both social and academic distress for minoritized undergraduate students. Literature focused on discrimination and social distress on specific ethnic groups, especially Native American students is scarce, boding the importance of contributing empirical research in this area.

Literature on students' decision to persist in college or university has looked at social and academic integration as key factors that contribute to their decision. This concept is found in Tinto's (1975) work where he theorized an individual's integration in the social and academic realms of college life will determine their likelihood of dropping out of the institution. Many factors may cause an individual to make such decisions, including experiencing distress in these essential realms in one's undergraduate career. Social and academic distress may be traced to experiences in one's college career including discrimination (Cheng et al., 2019; Nora & Cabrera, 1996). Native American students may especially be susceptible to the negative effects of discrimination particularly if they are minoritized in the institution. Therefore, the next three hypotheses are proposed:

Hypothesis 4: Subtle discrimination (T1) will be positively associated with social distress (T2) for Native American undergraduate students.

Hypothesis 5: Explicit discrimination (T1) will be positively associated with social distress (T2) for Native American undergraduate students.

Hypothesis 6: The positive relationship between subtle discrimination (T1) and social distress (T2) will be stronger than the positive relationship between explicit discrimination (T1) and social distress (T2).

Students who perceive discrimination may not only be affected socially but also academically. Minoritized students in academic settings are often subject to stereotype threat, where a stereotype attached to their group membership may impact a student's perception of their ability to succeed in certain disciplines (Pennington et al., 2016; Steele & Aronson, 1995). Importantly, universities in the U.S. have increased in their racial and ethnic diversity, with 54.7% of students classifying as non-Hispanic White in 2017 as compared to 66.1% in 2007 (United States Census Bureau, 2018). This change in diversity urges academics and researchers to understand the current experiences of undergraduate students especially as they relate to their academic distress. To understand the effects of discrimination, much of the literature has focused on its impact on academic performance. For example, minoritized students are more likely to experience discrimination than their White counterparts, and these discriminatory experiences negatively impact their academic performance (Stevens et al., 2018). In this study, Stevens and colleagues (2018) found that Black, Hispanic, Asian, Native American, and Multiracial students were more likely to report experiences of discrimination than White students and that Hispanic and Asian students were more likely to be negatively impacted academically by discrimination than White students. However, the impact of perceived discrimination on academic achievement may differ (Thomas et al., 2009; Sanders, 1997). Specifically, Thomas and colleagues (2009) found that perceived discrimination was negatively associated with academic achievement for African American and Caribbean Black youth. However, students who expected that outside

groups would see Black students negatively did not experience the negative effects of perceived discrimination on their academics, as their expectation aligned with the reality when they experienced discrimination (Thomas et al., 2009). Billingsley and Hurd (2019) found that perceived discrimination was positively associated with depressive symptoms and depressive symptoms were negatively associated with GPA for undergraduate students.

Poor academic performance may be preceded by academic distress. Previous literature has discussed the concept of academic integration that Tinto (1975) argues is essential to the lives of college students. Smedley et al. (1993) found that ethnically minoritized students' experience with prejudice and discrimination was associated with academic distress. Specifically, these students experienced doubts about their academic abilities and concerns that faculty and peers may question their legitimacy as college students during a time tied with the affirmative action push. Further, Eimers and Pike (1997) found that academic integration was more important for minoritized students than non-minoritized students in predicting first-year achievement in college. This finding indicates that minoritized students who perceive faculty and peer support (i.e., students with low academic distress) are better adjusted in their college career. Because perceptions of discrimination may further the stereotypes minoritized students feel threatened by, these experiences may in turn be associated with academic distress. Cheng and colleagues (2019) found that perceived discrimination had a significant positive association with academic distress, measured a year later, for Latino college students in a time-series design. This study also assessed academic distress at Time 1 and did not find a significant relationship with perceived discrimination at Time 2, indicating that the direction of influence is from perceived discrimination to academic distress. Research focused on other racial or ethnic groups is lacking.

Considering Native American students are often grouped under a broad minoritized group or “two or more races” in studies, it is essential to understand the academic effects of discrimination on this population. Previous research indicates that perceived discrimination is associated with academic distress for minoritized students. Thus, the next three hypotheses are proposed:

Hypothesis 7: Subtle discrimination (T1) will be positively associated with academic distress (T2) for Native American undergraduate students.

Hypothesis 8: Explicit discrimination (T1) will be positively associated with academic distress (T2) for Native American undergraduate students.

Hypothesis 9: The positive relationship between subtle discrimination (T1) and academic distress (T2) will be stronger than the positive relationship between explicit discrimination (T1) and academic distress (T2).

Tribal Engagement as a Protective Factor

Who are the Native American Peoples?

Native American individuals are not a monolith. There are 574 federally recognized Tribes in the United States alone, with more comprising the Indigenous peoples of current-day Canada, Mexico, and the rest of the countries in the Americas (National Congress of American Indians, 2020). Scholars discussing Native American Tribes may use other terms interchangeably to refer to these distinct groups of people, such as band, nation, pueblos, or communities (Waldman, 2006; National Congress of American Indians, 2020). In the United States, Native American Tribes represent groups of people associated by language, culture, values, and geographic regions (Waldman, 2006).

The federally recognized Tribes in the United States are sovereign nations, marking their right to self-govern, elect government officials, establish civil and criminal laws, and negotiate with federal and state representatives (National Congress of American Indians, 2020). Although most Native American individuals may identify with a sovereign Tribe, not all Tribes are federally recognized (see Waldman, 2006 for an encyclopedia of Tribes), indicating that recognition of a Tribe by Native American individuals is not limited to federal recognition. Additionally, considering feedback from focus groups of Native American students, the present study uses the preferred term “Native American” throughout this research. In line with the National Institutes of Health (2020) and the U.S. Department of the Interior, the terms Tribe and Indigenous are capitalized. This information is important to best understand the context of Native American students as we consider the potential protective effects of Tribal engagement.

What are Protective Factors?

Research on the protective effects of Tribal engagement for Native American individuals is limited. Generally, protective factors are of three types: individual (e.g., self-esteem), family (e.g., family cohesion, close family relations), and environmental/situational (e.g., social support, socioeconomic resources) (Carbonell et al., 2002; Brooks, 1994; Garmezy et al., 1984).

Protective factors moderate or buffer “the negative effects of risk factors, leading to resilient outcomes” (Carbonell et al., 2002, p. 395; Garmezy et al., 1984; Rutter, 1987). Following this framework, the current study aims to explore Tribal engagement as a protective factor that buffers the negative effects of subtle and explicit discrimination, leading to lower levels of depression, social distress, and academic distress for Native American undergraduate students who possess high levels of engagement. To best understand how Tribal engagement may buffer the negative effects of discrimination, we must understand the types of people and activities

students may engage with when involved in their Tribe/s, especially using a lens that centers Native American views (e.g., TribalCrit).

Native American Tribes in Focus

Tribal engagement may encompass both family and environmental/situational categories of protective factors. Many Native American Tribes consist of connections to multi-generational families, elders, and various community members. Members of Tribes may also engage with traditional practices and spirituality (Harris & McFarland, 2000). For example, students who may be more engaged with their Tribes may be connected to elders in the Tribal community, connected with Native American community members on campus, or be involved in Tribal activities such as powwows, traditional dances, and traditional artwork such as beadwork or weaving (Harris & McFarland, 2000). In a qualitative study on Alaska Native undergraduate students, DeCou and colleagues (2013) found support that engagement with traditional practices served as a protective factor against suicide for Alaska Native undergraduate students. Students' engagement with their traditional Tribal communities provided an avenue to connect with meaningful family and community relationships as well as with healthy eating and living amongst community members. For example, these students reported picking berries, eating simple meals, hunting and fishing, and taking nature walks with family and community members as traditional activities that helped minimize factors that may contribute to suicide risk and depression (DeCou et al., 2013). Evidently, traditional practices within different Native American Tribes may differ although many may similarly serve as avenues to connect with family and community relationships that may protect against stressors, such as the negative effects of discrimination.

Native American students may uphold different value systems as compared to the hegemonic, Eurocentric views that dominate educational institutions in the United States. For example, Native American values are often community or Tribe-focused -- as opposed to individual-focused -- and cooperative --as opposed to competitive -- in educational settings, emphasizing the success of the community rather than the individual (Brayboy, 2013; Brayboy, 1999; Dehyle, 1992; 1995). Because of these conflicting value systems for Native American students, TribalCrit asserts that the framing of success as communal and the recognition of the importance of Tribal philosophies, customs, and traditions is vital for their integration and empowerment in various educational fields (Brayboy, 2005). In fact, Brayboy (2005) highlights Indigenous perspectives as essential to understand the influence of culture, community, and family on the lived realities of many Native American students. To view student motivations for educational pursuits and realities through an Indigenous lens expands the understanding of unique contributions Tribes may provide for Native American students – as opposed to other forms of social support -- and how these social support resources strengthen their overall resilience outcomes (i.e., reduce impact of stressors on strains) individually and communally. Thus, Tribal engagement may indeed serve as a means by which students are aligned with their values, are focused on the community over the individual, and are comfortable and reassured in their own identities, providing distinctive benefits to well-being.

Although the concept of Tribal engagement has seldom been discussed in the literature, enculturation has been found to have protective effects for Native American individuals. For Native American individuals specifically, enculturation is the degree to which an individual is involved in their Native American culture including participating in traditional practices and spirituality, connecting with their culture, and identifying with their culture (e.g., upholding

shared values) (Zimmerman et al., 1996; Whitbeck et al., 2004; Stone et al., 2006). Enculturation -- and its sub-dimensions (i.e., traditional practices, traditional spirituality, cultural connection, cultural identity) -- have positive effects on well-being for Native American adolescents (Whitbeck et al., 2004; Cummins et al., 1999; Henson et al., 2017; Graham, 2002; Stumblingbear-Riddle & Romans, 2012), Native American adults (Whitbeck et al., 2004; Stone et al., 2006), wider Native American communities (Garoutte et al., 2003; Herman-Stahl et al., 2003; Kenyon & Carter, 2011), and other Indigenous peoples such as the Māori of New Zealand (Houkamau & Sibley, 2011; Durie, 1999; Stuart & Jose, 2014). Additionally, enculturation was positively correlated with higher academic success, higher peer social competence, higher spirituality, and higher connection to traditional Tribal values for Native American youth (Graham, 2002). Family, cultural, and overall Tribal connections and involvement provide Native American students with resources to withstand stressors such as discrimination. Traditionally, the transactional model of stress and coping (Lazarus & Folkman, 1984) focuses on the relationship between the stressor and the strain, modeling perceptions of coping as their mediator. However, this model can be expanded to include a moderator of social support to explain the impact of community on resilience for Native American students. Specifically, social support has positive well-being outcomes (Sherman et al., 2011) which may aid in the perception of increased coping resources for individuals during the appraisal process. As such, the present study poses that Tribal engagement – a social support resource for Native American students – is a moderator of the stressor-strain relationship, such that higher levels of Tribal engagement will buffer the relationship between discrimination and distress outcomes.

To elaborate on the mechanism by which Tribal engagement may buffer negative effects of discrimination for Native American students, reviewing the literature on the attribution to

perceived discrimination is necessary. Allport (1954) describes that individuals who have perceived discrimination or prejudice may react in a manner that is intro-punitive or extro-punitive (Major et al., 2002). With an intro-punitive reaction, individuals who perceive discrimination, whether subtle or explicit, attribute these experiences to themselves, where they internalize the mistreatment and may engage in self-hate or distancing oneself from the stigmatized group (Major et al., 2002; Schmitt & Branscombe, 2002). In contrast, individuals who react extro-punitively externalize discrimination, attributing the experiences to the perpetrator or others, and may increase identification with the stigmatized group (Major et al., 2002). Individuals who attribute their experiences of discrimination to others may have positive well-being outcomes, such as higher self-esteem (Major et al., 2002) and confidence in their current and future success (Major & Schmader, 1998). Although attribution to the other seems to be a self-preservation technique, a previous study on women found that they may attribute discrimination to the self when they feel the social cost (e.g., appearance of averting blame or not taking ownership of individual factors) may outweigh the benefits of external attribution (Sechrist et al., 2004). Therefore, Native American students may be hesitant to attribute discrimination externally if their local environment is ignorant of the historical and structural influences (see TribalCrit; Brayboy, 2013) that may increase discrimination for Native American individuals.

Thus, Tribal engagement may have protective effects for Native American students against perceptions of discrimination for several reasons. First, engaging with individuals who take pride in their Tribal and Native American identities may also provide a stark difference when compared to interacting with individuals who discriminate against these identities and interact with Native American students with contempt, providing increased chances that students

will attribute discrimination to others rather than the self. Second, in line with the theory on sense of belonging (Baumeister & Leary, 1995), students who engage with individuals who share similar outlooks and experiences may feel supported in knowing others who face similar challenges. These shared experiences may be validating to an individual's perception of discrimination. Additionally, individuals may interact with elders or community members that provide advice, empathy, and support to dealing with discriminatory experiences, helping Native American students' well-being by the ability to recognize the historical and structural influences of discrimination. Engaging with Tribes may also enrich the lived realities of Native American students by their involvement with people and activities that align with their values. This value congruence provides confidence and reassurance to Native American identities, empowering students especially during times of adversity (i.e., discrimination). Brayboy (2005) illustrates that power from an Indigenous lens is "the ability to determine a place in the world" (p. 436) and this power comes from connection to Indigenous culture, values, and traditions. Hence, Tribal engagement may provide distinctive social support resources for Native American students that cultivate their identities and enrich their lived realities, allowing them to withstand discrimination.

In sum, empirical research on Native American individuals showcases the protective effects of enculturation on well-being. Similarly, family, cultural, and Tribal resources protect against many risk factors that plague many Native American students, including discrimination. Thus, for Native American undergraduate students, Tribal engagement may buffer the effect of discrimination on psychological strain for undergraduate students, and the following hypotheses are predicted:

Hypothesis 10: Tribal engagement (T1) will moderate the relationship between subtle discrimination (T1) and strain outcomes (T2), such that higher levels of Tribal engagement will buffer the negative effects of subtle discrimination on (a) depression, (b) social distress, and (c) academic distress for Native American undergraduate students.

Hypothesis 11: Tribal engagement (T1) will moderate the relationship between explicit discrimination (T1) and strain outcomes (T2), such that higher levels of Tribal engagement will buffer the negative effects of explicit discrimination on (a) depression, (b) social distress, and (c) academic distress for Native American undergraduate students.

Method

Participants

The sample of this study includes 511 Native American undergraduate students ($N = 511$) at a large university in the United States. The university lies in a state that includes 39 federally recognized Tribes, and has the largest percentage (i.e., 14.2%) of Native American individuals relative to other states (Sánchez-Rivera et al., 2023). All participants self-identified as Native American, and are members of approximately 39 Tribes, with the largest populations being Cherokee, Choctaw, Chickasaw, Muscogee (Creek), and Osage. The mean age for participants was 21.26 ($SD = 4.89$), with the majority of participants between the ages of 18 and 25. Additionally, 327 participants (64%) identified as female. To qualify as a participant in the study, each individual must have correctly answered at least 50% of the embedded attention-check questions that were included in the online survey to assess the participant's attentiveness.

Procedure

The students in the present sample are part of a larger, longitudinal study investigating the retention and success of Native American students in higher education with a special emphasis on STEM fields. This longitudinal study spanned from 2014 to 2025 (i.e., approximately 10 years) and is framed by community based-research that connected community members and researchers to develop the research process and plan research-informed programming for Native American students. In the first year of the project, an advisory council of Native American scholars, students, and Tribal leaders met to discuss the research methods and aims of the multi-year project. Using feedback from these advisors, researchers developed the study survey and procedures. Student focus groups also helped develop a few measures specific to Native American student experiences (e.g., explicit discrimination for Native American students). Principal investigators mentored several Native American undergraduate and graduate students on the research team over the course of the multi-year project.

Institutional records were used to identify and recruit Native American students enrolled at the university who were emailed a link to participate in an online survey. For the present study, data were collected every semester from spring 2016 to fall 2021, with about a semester (i.e., 6 months) between the two timepoints. This timeframe was determined from the availability of the current study's measures in the survey, as some measures were included in later semesters throughout the duration of the 10-year study. Only Native American students who completed surveys in both timepoints, with the second timepoint the semester immediately following the first, were included in the present study. The survey took approximately 30-45 minutes to complete, and all participants who completed at least 60% of the survey and passed 50% of the attention check questions were compensated with a \$20 gift card for each survey.

Measures

Subtle Discrimination

Subtle discrimination was measured by 8 items (see Table 10) as utilized by a previous study measuring subtle discrimination (Snyder et al., 2010). This scale was created using Benokraitis and Feigin's (1986) definition and conceptualization of subtle discrimination. The current study utilized an adaptation of the scale to fit the undergraduate population of interest. Items were measured on an eleven-point Likert scale (0 times = 1, 10 or more times = 11) that assessed the number of times they have felt a particular item since being a student at the university. Sample items included: "'Since you've been a student at <university>, how many times have you felt...?' ... 'That your contribution during a discussion was discounted' ... 'That other students in a group ignored you.'" Higher scores indicate a higher frequency of instances of subtle discrimination. Cronbach's alpha was 0.84.

Explicit Discrimination

Explicit Discrimination was measured by 10 items (see Table 9) tailored to Native American students. These items were developed using focus groups of Native American students to collect examples of discriminatory experiences. Items were measured on an eleven-point Likert scale (0 times = 1, 10 or more times = 11) that assessed the number of times they have felt a particular item since being a student at the university. Sample items included: "'Since you've been a student at <university>, how many times have you been asked...?' ... 'To talk about being Native' ... 'That you live in a teepee'" and "'Since you've been a student at <university>, how many times have you...?' ... 'Witnessed students at <university> dressing up as "Indians" in an offensive manner' ... 'Heard or seen racial slurs toward Native Americans on campus.'" Higher

scores indicate a higher frequency of instances of explicit discrimination. Cronbach's alpha was 0.88.

Depression Diagnostic and Severity

Depression was measured by 8 items (see Table 8) from the PHQ-9 of the Patient Health Questionnaire (PHQ), a widely used brief depression severity measure that assesses the nine DSM-IV criteria for depression (Kroenke et al., 2001). Items were measured as a sum of the 8 items on a four-point Likert scale (not at all in the last two weeks = 1, nearly every day in the last two weeks = 4). Sample items included: “Over the last TWO weeks, how often have you been bothered by any of the following problems?” ... ‘Little interest or pleasure in doing things’ ... ‘Trouble falling or staying asleep or sleeping too much.’” Higher scores indicate higher levels of depressive symptoms. Cronbach's alpha was 0.91.

Social Distress

Social distress was measured by 5 items (see Table 7) as utilized by a previous study measuring college distress (Solberg et al., 1993). The current study utilized an adaptation of the scale determined by exploratory factor analyses (EFAs) using our current sample (see Results). Items were measured on a five-point Likert scale (never = 1, very often = 5). Sample items include: “In the last year, how often did you experience the following: ‘difficulty finding support groups sensitive to your needs’; ‘difficulty handling relationships’”. Higher scores indicate higher levels of social distress. Cronbach's alpha was 0.79.

Academic Distress

Academic distress was measured by 8 items (see Table 6) as utilized by a previous study measuring college distress (Solberg et al., 1993). The current study utilized an adaptation of the scale determined by exploratory factor analyses (EFAs) using our current sample (see Results). Items were measured on a five-point Likert scale (never = 1, very often = 5). Sample items include: “In the last year, how often did you experience the following: ‘difficulty handling your academic workload’; ‘difficulty meeting deadlines for course requirements’”. Higher scores indicate higher levels of academic distress. Cronbach’s alpha was 0.90.

Tribal Engagement

Tribal engagement was measured by 5 items (see Table 11). These items were developed using focus groups of Native American students. Items were measured on a four-point Likert scale (not at all involved = 1, very involved = 4). Sample items include: “How would you rate your involvement in your Native American community?”; “How would you rate your connection to your Native American community?”; “How would you rate your involvement in your Tribal community?”; “How would you rate your connection to your Tribal community?”; “How connected are you to a Native American community on campus?” Higher scores indicate greater engagement to one’s Tribe. Cronbach’s alpha was 0.89.

Results

Preliminary Analyses

To begin analyzing these data, I ran descriptive statistics in R using the psych package and included the variable ranges, means, standard deviations, and missing data percentages (see Table 1). Little to no missing data existed per study variable; therefore, no procedure was taken

to address missing data. For each further analysis, R uses the full-information maximum likelihood (FIML) procedure as necessary. FIML is a procedure best suited for latent variables (Olinsky et al., 2003; Woods et al., 2021). Additionally, I ran correlations of the study variables (see Table 2).

Factor Analytic Models

To explore how items loaded onto the social distress and academic distress measures, I used MPLUS to run an exploratory factor analysis (EFA) using principal component analysis with varimax rotation as suggested in the literature (Osborne, 2015). Solberg and colleagues (1993) included 15 items total for academic (i.e., 7 academic distress items) and social distress (i.e., 8 social distress items) in their college stress inventory scale. I ran an EFA using these 15 items and I identified two factors using the parallel analysis and scree plot. However, two items (e.g., “difficulty from faculty on the basis of your ethnicity” and “difficulty from peers on the basis of your ethnicity”) that Solberg and colleagues (1993) categorized under social distress demonstrated weak loadings to either factor; these items were also conceptually less aligned with the intended construct of social distress, so they were removed. Additionally, I included the item “difficulty participating in class” under academic distress instead of under social distress as in Solberg and colleagues’ (1993) study due to its factor loading, resulting in 5 total items for social distress and 8 total items for academic distress for the current study. I also ran an EFA to explore how items loaded onto Tribal engagement and found that all 5 items loaded onto one factor.

Next, I used the Lavaan package in R to run a series of factor analytic models. For each latent variable, I determined a factor structure by running a confirmatory factor analysis (CFA), where I loaded items onto a single factor with the variance constrained to one. I determined model fit using several fit indices including a χ^2 fit index, Comparative Fit Index (CFI), Tucker-

Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). Previous literature recommended that models with CFI and TLI above .90 and RMSEA and SRMR below .10 were considered adequate fit (Hu & Bentler, 1999). If multiple fit indices were not within the recommended ranges, I ran subsequent models with recommendations from modification indices. Then, I ran a χ^2 difference test to identify if there was a statistically significant difference between the original model and the modified model. If the modification (i.e., correlation of the residuals of two items) was theoretically justified and the modified model showed a significant difference in fit, then I retained the modified model.

Models for social distress, academic distress, and Tribal engagement possessed adequate fit. Models for subtle discrimination, explicit discrimination, and depression demonstrated adequate fit after one modification that I performed as suggested by the modification indices and if the modification made theoretical sense. For the modification for the model on subtle discrimination, I correlated the residuals for two items (i.e., “like you had to prove yourself more than other students in your classes” and “like you had to prove yourself to other students before they would listen to your ideas”). For the modification for the model on explicit discrimination, I correlated the residuals for two items (i.e., “difficulty from faculty on the basis of your ethnicity” and “heard or seen racial slurs toward Native Americans on campus?”). For the modification for the model on depression, I correlated the residuals for two items (i.e., “trouble falling or staying asleep or sleeping too much” and “feeling tired or having little energy”). After each modification, I ran a χ^2 difference test between each of these three variables’ original model and modified model showcasing a statistically significant difference, retaining each of the modified models. Model fit indices for all study variables including the fit indices for the original model,

modified model, and χ^2 difference test for subtle discrimination, explicit discrimination, and depression are presented below (see Table 3).

Proposed Model

After determining the factor structure for each of the current study's six variables, I ran a measurement model to ensure that the observed variables are valid and reliable indicators of the latent constructs. The measurement model demonstrated adequate fit $\chi^2(884) = 1,899.31$, $p < 0.001$, CFI = .913, TLI = .907, RMSEA = .054 [.044, .050], and SRMR = .054.

Next, I set up the structural model to test the predicted relationships between the latent constructs. To model the interaction effect of Tribal engagement, I estimated factor scores using the Lavaan package in R (Rosseel, 2012) using the empirical Bayes modal (EBM) approach. I created interaction terms from these factor scores and added them to the structural model. Then, I ran both the measurement model and structural model simultaneously; the structural model also possessed adequate fit, $\chi^2(275) = 766.95$, $p < 0.001$, CFI = .920, TLI = .908, RMSEA = .06 [.055, .065], and SRMR = .040. I bootstrapped all models with 1000 samples to obtain robust standard errors and confidence intervals for parameter estimates.

To test the difference in magnitude between the associations between subtle discrimination and the strain outcomes and explicit discrimination and the strain outcomes (e.g., hypotheses 3, 6, & 9), I calculated a raw difference score between the direct effects of each predictor and outcome (Coutts & Hayes, 2022). I bootstrapped the models with 1000 samples and I obtained 95% confidence intervals. If the confidence interval did not contain zero, then results would support a significant difference in the magnitude of the associations.

Because information on the experiences of Native American undergraduates is limited, I analyzed the frequency of subtle discrimination and explicit discrimination at the item level to

understand how often these experiences occur for the current sample, who reside in an area that has a higher than average presence of Native American peoples and cultures. Students reported experiencing more subtle discrimination than explicit discrimination on average, with a majority (72%) of Native American undergraduates experiencing at least one instance of explicit discrimination during their time in university, while approximately 84% of students reported at least one instance of subtle discrimination during their time in university. The mean of 2.62 for subtle discrimination indicates that across all items, students reported a mean of experiencing each item between 1-2 times during university. However, certain items were more likely to occur or occur repeatedly than others, including “that your contribution during a discussion was discounted,” “like you had to prove yourself more than other students in your classes,” “that faculty members didn’t take you seriously when you talked to them,” “like you had to prove yourself to other students before they would listen to your ideas,” “that other students in a group ignored you,” and “like you had to represent your entire group”. The mean of 2.03 for explicit discrimination indicates that across all items, students reported a mean of experiencing each item one time during university, with students reporting having been asked “what are you” with respect to their race/ethnicity the most of all the items (i.e., about 3 times during their time at university) followed by being asked “to talk about being Native” (i.e., about 1 to 2 times during their time at university).

Hypotheses 1-3

Hypotheses 1-3 focused on the associations between discrimination and depression. Findings supported hypothesis 1, which predicted a positive association between subtle discrimination and depression ($\beta = 0.28, p < .001$) but did not support hypothesis 2, which predicted a positive association between explicit discrimination and depression ($\beta = -0.00, p$

=.991). Because the confidence interval did not contain zero, findings also supported hypothesis 3, which predicted a stronger relationship between subtle discrimination and depression than the relationship between explicit discrimination and depression 95% CI [0.145, 0.406].

Hypotheses 4-6

Hypotheses 4-6 examined the associations between discrimination and social distress. Findings supported all 3 hypotheses. Support was found for hypothesis 4, which predicted a positive association between subtle discrimination and social distress ($\beta = 0.27, p < .001$), and hypothesis 5, which predicted a positive association between explicit discrimination and social distress ($\beta = 0.12, p = .022$). Hypothesis 6, which predicted a stronger relationship between subtle discrimination and social distress than the relationship between explicit discrimination and social distress 95% CI [0.008, 0.289] was also supported as the confidence interval did not contain zero.

Hypotheses 7-9

Hypotheses 7-9 examined the associations between discrimination and academic distress. Findings supported hypothesis 7, which predicted a positive association between subtle discrimination and academic distress ($\beta = 0.21, p < .001$), but did not support hypothesis 8, which predicted a positive association between explicit discrimination and academic distress ($\beta = 0.05, p = .273$). Because the confidence interval did not contain zero, findings also supported hypothesis 9, which predicted a stronger relationship between subtle discrimination and academic distress than the relationship between explicit discrimination and academic distress 95% CI [0.049, 0.292].

Hypotheses 10-11

Hypotheses 10 and 11 focused on the moderating effects of Tribal engagement on the relationships between discrimination and the outcomes. Hypothesis 10 predicted that Tribal engagement will moderate or buffer the effects of subtle discrimination on (a) depression ($\beta = -0.14, p = .009$), (b) social distress ($\beta = -0.09, p = .113$), and (c) academic distress ($\beta = -0.10, p = .098$). Because only hypotheses 10a and 10c – but not 10b -- were statistically significant, findings partially supported Hypothesis 10. Finally, hypothesis 11 predicted that Tribal engagement will moderate or buffer the effects of explicit discrimination on (a) depression ($\beta = 0.05, p = .393$), (b) social distress ($\beta = -0.08, p = .135$), and (c) academic distress ($\beta = 0.01, p = .850$). Because results were not statistically significant for any of the hypotheses, findings did not support hypothesis 11 (for all findings, see Figure 4).

To probe the significant interactions between subtle discrimination and depression as well as academic distress, I ran a simple slopes analysis in R using the interactions package. This analysis tested if subtle discrimination was impacting depression and academic distress equally for average, below average ($-1 SD$), and above average ($+1 SD$) levels of Tribal engagement. Results revealed that the relationship between subtle discrimination and depression was stronger for students who reported below average levels of Tribal engagement ($\beta = 1.93, p < .001$) compared to students who reported average ($\beta = 1.47, p < .001$) or above average levels of Tribal engagement ($\beta = 1.01, p < .001$). Additionally, the relationship between subtle discrimination and academic distress was stronger for students who reported below average levels of Tribal engagement ($\beta = .22, p < .001$) compared to students who reported average ($\beta = .17, p < .001$) or above average levels of Tribal engagement ($\beta = .12, p < .001$). Therefore, findings indicate that (see Tables 4 and 5 and Figures 2 and 3) Tribal engagement moderates the relationships between both subtle discrimination and depression and subtle discrimination and academic distress such

that higher levels of Tribal engagement weakened the associations between subtle discrimination and these two outcomes.

Discussion

The purpose of the current study was to investigate potential moderating effects of Tribal engagement on the relationships between both subtle and explicit discrimination and depression, social distress, and academic distress in Native American undergraduate students over two timepoints. This study built upon Lazarus and Folkman's (1984) transactional model of stress and coping to explain the stressor-strain relationships between the predictors of discrimination and the distress outcomes. This study expanded upon this model to include a moderator of Tribal engagement that served as a social support resource for Native American students. Notably, the current study incorporated Tribal Critical Race Theory (Brayboy, 2005; 2013) to center and uplift Native American perspectives to best understand the unique influences of Tribal engagement. Findings of the current study offer various theoretical contributions and practical implications for universities.

In line with hypotheses 1, 4, and 7, findings support that subtle discrimination has a positive association with depression, social distress, and academic distress, respectively. However, findings support that explicit discrimination has a positive association with social distress (i.e., hypothesis 5), but not depression (i.e., hypothesis 2) nor academic distress (i.e., hypothesis 8). Additionally, in line with my predictions for hypotheses 3, 6, and 9, findings support that subtle discrimination has stronger impacts on depression, social distress, and academic distress than explicit discrimination for Native American students. Subtle discrimination is ambiguous and more cognitively taxing which may contribute to stronger negative impacts to psychological well-being relative to explicit discrimination (Noh et al., 2007; Salvatore & Shelton, 2007).

Students may more easily attribute experiences of explicit discrimination extropunitively, attributing these acts to prevalent stereotypes or structural prejudices (Major et al., 2002). These findings support a previous meta-analysis (i.e., Jones et al., 2016) and other studies (i.e., Noh et al., 2007; Salvatore & Shelton, 2007) that indicate that subtle discrimination may indeed have more detrimental effects to well-being than explicit discrimination. These findings are not unique to Native American students alone as these studies found similar results with individuals of other minoritized backgrounds such as Korean immigrants (Noh et al., 2007) and Black individuals (Salvatore & Shelton, 2007). Future research should consider how subtle discrimination may compare to explicit forms on its influence on well-being for other minoritized individuals.

Findings partially support hypothesis 10 showcasing that Tribal engagement moderates the relationships between subtle discrimination and both depression and academic distress, but not social distress. Tribal engagement helps students connect with community members (DeCou et al., 2013) that may help them attribute discrimination external to the self, improving well-being outcomes (Major et al., 2002). Students who are more engaged with their Tribes may interact with individuals who help provide clarity despite the ambiguous nature of the experiences of subtle discrimination. However, for social distress, after examining the items of this measure in the current study, I notice that these items may capture aspects of ability to find people of shared backgrounds rather than the distress in social environments. Perhaps a measure with items that capture more subjective perspectives of a student's capacity to interact in social environments may better examine this strain and how Tribal engagement may influence the association between subtle discrimination and social distress. Findings do not support hypothesis 11 such that Tribal engagement does not moderate the relationships between explicit discrimination and the strain outcomes. Because explicit forms of discrimination have weaker or non-significant

associations with the strain outcomes, Tribal engagement has less potential to affect these relationships.

Strengths, Limitations, and Future Directions

The current study holds distinctive strengths. This study is one of the few that centers and uplifts Native American students by examining a substantial sample of students to contribute to the growing literature on discrimination, Native American well-being, and the influences of social and community support factors for minoritized students. This study examines Native American students in a time-series design informing universities in creating theoretical and data driven policies to provide social and community support opportunities for students on and off campus. This study paves the way for future researchers to build upon literature that dives into the mechanisms that may help minoritized individuals cope with stressors such as discrimination when they are engaged in community spaces.

Although the current study carries unique strengths, it is not without its limitations. First, this study utilized two new measures specific to Native American students (i.e., explicit discrimination and Tribal engagement) and designed for the current study that have not been previously tested and validated on other Native American samples. These measures appear to be psychometrically sound, but additional studies should look to test and validate these measures to best capture the experiences of Native American students. In particular, it may be beneficial to acknowledge and separately assess that engagement may occur within a variety of sources, such as the student's own Tribe(s), within other Tribal communities, within university-related sources, or other support resources. Second, results may not be generalizable to all Native American Tribes as the current study's sample consisted of Native American students from a university in a south-central U.S. state with the largest Native American population compared to other states;

these students may be engaged in a select number of Tribes (e.g., Cherokee, Choctaw, Chickasaw, Muscogee (Creek), and Osage) that may differ from Tribes near universities in other regions. Additionally, students' discriminatory experiences may vary depending on location of university or region of the country. For example, different universities may have different student body makeup, policies, or politics that vary by state that may impact a student's exposure to specific discriminatory experiences. For instance, Native American students in states that consist of larger populations of Native American individuals may not experience items on the explicit discrimination measure as frequently as Native American students from states with lower proportions of Native American peoples. Hence, in the current study, the average amount of times students experienced forms of both subtle and explicit discrimination was between 1 to 2 times for each. As such, researchers should look to replicate these findings in universities in different regions, considering the population of various Indigenous populations. Future research should consider including baseline measures for any strain outcomes or academic- or career-related outcomes to better examine the influences of discrimination and Tribal engagement on Native American student well-being. Additionally, this study may expand to students of other minoritized backgrounds. Future research should consider the influences of social and community support opportunities for aiding and supporting the well-being of these students. Perhaps researchers should consider how community engagement may compare to other protective factors such as development of ethnic identity for minoritized students (Kenyon & Carter, 2011). Community engagement may consist of several factors, such as emotional, cognitive, and behavioral engagement, that ought to be investigated to ascertain the influences and protective nature of this social support resource on the well-being of minoritized students.

Theoretical Contributions and Practical Implications

The current study provides several key theoretical contributions and practical implications. First, this study expands Lazarus and Folkman's (1984) stressor-strain model by introducing Tribal engagement as a social support resource for Native American students, identifying a key factor that influences the stressor-strain relationship for these students. Second, this study differentiates between subtle and explicit forms of discrimination and findings support that these forms influence well-being differently, aligning with a previous meta-analysis (Jones et al., 2016) that supports the stronger impacts of subtle forms on well-being, and contributing to our increased understanding of and the growing body of literature on forms of discrimination. Third, this study examines 511 Native American undergraduate students in a time series design over two timepoints, offering a unique opportunity to understand this student population and add to their limited literature. Fourth, this study provides insight into the social support factors that may expand to students of minoritized backgrounds as a whole. Practically, the current study's findings may help universities understand the experiences of their Native American student population better, aiding in creating policies and opportunities that uplift these students. These findings may inform administrators on avenues of support for other minoritized students as well. Community support may be a key factor in alleviating negative impacts of discrimination for minoritized students. As such, universities should not only work to diminish discriminatory experiences on campus through policy-work, but they should also provide opportunities to connect with community resources both on and off campus to help students cope with subtle discrimination.

Conclusion

Native American student experiences are necessary to examine to inform university administrators on potential policies and opportunities that may uplift these students. Both subtle and explicit forms of discrimination have differing associations with strain outcomes for these students. Tribal engagement may indeed serve as a social support resource for Native American students by moderating the associations between subtle discrimination and well-being outcomes. Future research is encouraged to enhance the state of the literature on discrimination, Native American student experiences, and the influence of social and community support factors on the well-being of other minoritized individuals.

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Tables

Table 1

Descriptive Statistics for Study Variables for All Students

Variable	<i>N</i>	Range	Min	Max	<i>M</i>	<i>SD</i>	Percent Missing
Subtle Discrimination	511	1-11	1	10	2.62	1.74	0%
Explicit Discrimination	493	1-11	1	10	2.03	1.49	0.04%
Depression	507	8-32	8	32	16.41	6.31	0.002%
Social Distress	511	1-5	1	5	2.35	0.86	0
Academic Distress	511	1-5	1	5	3.00	0.90	0
Tribal Engagement	505	1-4	1	4	2.13	0.64	0.01%

Note. *N* = 511 participants. Subtle discrimination and explicit discrimination are measured at TP1. Depression, social distress, academic distress, and Tribal engagement are measured at TP2. Depression scores are measured as a sum of the items and all other variables are measured as an average of the items.

Table 2*Means, Standard Deviations, and Correlations of Study Variables for All Students*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Subtle discrimination	2.62	1.74	—					
2. Explicit discrimination	2.03	1.49	.36**	—				
3. Depression	16.41	6.31	.37**	.13**	—			
4. Social Distress	2.35	0.86	.39**	.21**	.57**	—		
5. Academic Distress	3.00	0.90	.31**	.15**	.65**	.69**	—	
6. Tribal Engagement	2.13	0.64	.15**	.40**	-.04	.11*	.01	—

Note. *N* = 511 participants. *** $p < .001$, ** $p < .01$, and * $p < .05$.

Table 3*Confirmatory Factor Analyses of Study Variables and Fit Indices*

Variable	χ^2	<i>df</i>	CFI	TLI	RMSEA	SRMR
Subtle Discrimination	151.52***	20	.903	.864	.113 [.097, .131]	.052
Modification	102.60***	19	.938	.909	.093 [.076, .111]	.041
χ^2 Difference Test	48.93***					
Explicit Discrimination	339.12***	35	.870	.833	.133 [.120, .146]	.074
Modification	229.143***	34	.917	.890	.108 [.095, .121]	.062
χ^2 Difference Test	109.96***					
Depression	202.78***	20	.923	.892	.134 [.117, .151]	.043
Modification	120.37***	19	.957	.937	.102 [.085, .120]	.035
χ^2 Difference Test	82.41***					
Social Distress	30.01***	5	.964	.927	.099 [.067, .134]	.032
Academic Distress	132.43***	20	.947	.926	.105 [.088, .122]	.035
Tribal Engagement	72.14**	5	.956	.913	.163 [.131, .197]	.032

Note. *** $p < .001$, ** $p < .01$, and * $p < .05$; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square of Approximation; SRMR = Standardized Root Mean Residual; bolded rows indicate the model used in the full structural equation model.

Table 4*Subtle Discrimination and Depression: Simple Slopes Analysis*

TE Value	β	<i>SE</i>	Lower CI	Upper CI	<i>t</i>	<i>p</i>
TE = -.64 (-1 SD)	1.93	.23	1.48	2.39	8.38	.00
TE = .001 (Mean)	1.47	.15	1.17	1.77	9.54	.00
TE = .64 (+1 SD)	1.01	.19	.64	1.38	5.39	.00

Note. CI = Confidence Interval; TE = Tribal Engagement.

Table 5*Subtle Discrimination and Academic Distress: Simple Slopes Analysis*

TE Value	β	<i>SE</i>	Lower CI	Upper CI	<i>t</i>	<i>p</i>
TE = -.64 (-1 SD)	.22	.03	.16	.29	6.61	.00
TE = -.00 (Mean)	.17	.02	.13	.22	7.67	.00
TE = .64 (+1 SD)	.12	.03	.07	.18	4.50	.00

Note. CI = Confidence Interval; TE = Tribal Engagement.

Table 6

Academic Distress Items

In the last YEAR, how often did you experience the following:
AD1 – Difficulty trying to fulfill responsibilities at home and at school.
AD2 – Difficulty taking exams.
AD3 – A fear of failing to meet expectations.
AD4 – Difficulty participating in class
AD5 – Difficulty handling your academic workload.
AD6 – Difficulty writing papers.
AD7 – Difficulty meeting deadlines for course requirements.
AD8 – Difficulty because of feeling a need to perform well in school.

Note. 5-point scale was used (1 = Never to 5 = Very Often). Higher scores indicate higher levels of academic stress. AD = Academic distress.

Table 7

Social Distress Items

In the last YEAR, how often did you experience the following:
SoD1 – Difficulty trying to meet peers of your race/ethnicity on campus.
SoD2 – Difficulty finding support groups sensitive to your needs.
SoD3 – Difficulty living in the local (college) community.
SoD4 – Difficulty handling relationships.
SoD5 – Difficulty with peers treating you unlike they treat each other.

Note. 5-point scale was used (1 = Never to 5 = Very Often). Higher scores indicate higher levels of social distress. SoD = Social distress.

Table 8

Depression Items

Over the last TWO weeks, how often have you been bothered by any of the followings problems:

DEP1 – Little interest or pleasure in doing things.

DEP2 – Feeling down, depressed, or hopeless.

DEP3 – Trouble falling or staying asleep or sleeping too much.

DEP4 – Feeling tired or having little energy.

DEP5 – Poor appetite or overeating.

DEP6 – Feeling bad about yourself or thinking that you are a failure or that you have let yourself or your family down.

DEP7 – Trouble concentrating on things such as reading the newspaper or watching television.

DEP8 – Moving or speaking so slowly that other people could have noticed? Or the opposite – being too fidgety or restless that you have been moving around a lot more than usual

Note. 4-point scale was used (1 = Not at all to 4 = Nearly every day). Higher scores indicate higher levels of depression. DEP = depression.

Table 9

Explicit Discrimination Items

Since you've been a student at <university>, how many times have you been asked...?
ED1.1 – To talk about being Native.
ED1.2 – If you live in a teepee?
ED1.3 – If you can talk “Indian”?
ED1.4 – If you dance at powwows?
ED1.5 – If you wear “Indian” clothes?
ED1.6 – What are you?
Since you've been at <university>, how many times have you...?
ED2.1 – Difficulty from faculty on the basis of your ethnicity.
ED2.2 – Heard or seen racial slurs toward Native Americans on campus?
ED2.3 – Been called “Native” names like Pocahontas or Chief.
ED2.4 – Heard someone say they thought “Indians were all dead.”

Note. 11-point scale was used (1 = 0 times to 11 = 10 or more times). Higher scores indicate higher levels of explicit discrimination. ED = Explicit discrimination.

Table 10

Subtle Discrimination Items

Since you've been a student at <university>, how many times have you felt...?
SD1 – That your contribution during a discussion was discounted.
SD2 – Like you had to prove yourself more than other students in your classes.
SD3 – That faculty members didn't take you seriously when you talked to them.
SD4 – Like you had to prove yourself to other students before they would listen to your ideas.
SD5 – That other students in a group ignored you.
SD6 – That students didn't want you to sit by them in class.
SD7 – Pressured/singled out by faculty.
SD8 – Like you had to represent your entire group.

Note. 11-point scale was used (1 = 0 times to 11 = 10 or more times). Higher scores indicate higher levels of subtle discrimination. SD = Subtle discrimination.

Table 11

Tribal Engagement Items

TE1 – How would you rate your involvement in your Native American community?

TE2 – How would you rate your connection to your Native American community?

TE3 – How would you rate your involvement in your Tribal community?

TE4 – How would you rate your connection to your Tribal community?

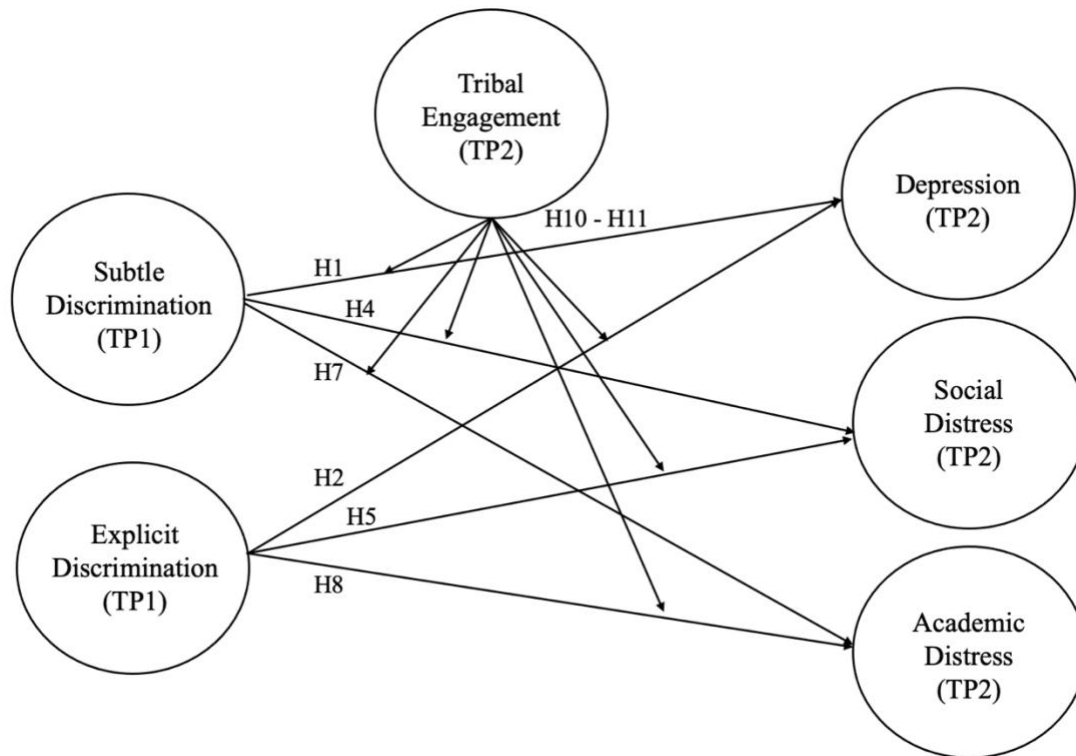
TE5 – How connected are you to a Native American community on campus?

Note. 4-point scale was used (1 = Not at all involved to 4 = Very involved). Higher scores indicate higher levels of Tribal engagement. TE = Tribal engagement.

Figures

Figure 1

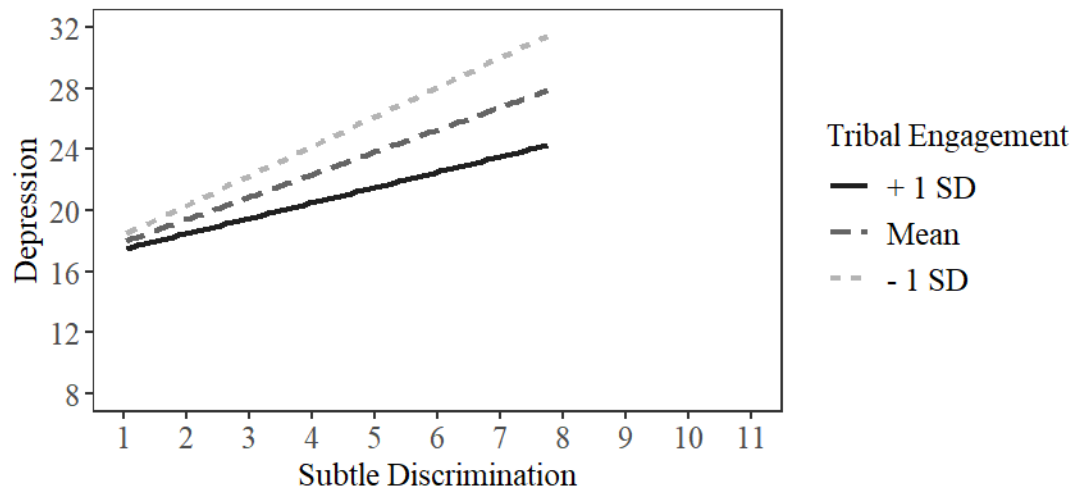
Proposed Model.



Note. H3, H6, and H9, not depicted here, predict a stronger positive relationship between subtle discrimination and the outcome variables than the positive relationship between explicit discrimination and the outcome variables. TP = time point.

Figure 2

Moderation Effect of Tribal Engagement on Subtle Discrimination and Depression



Note. Depression has a minimum score of 8 and maximum of 32.

Figure 3

Moderation Effect of Tribal Engagement on Subtle Discrimination and Academic Distress

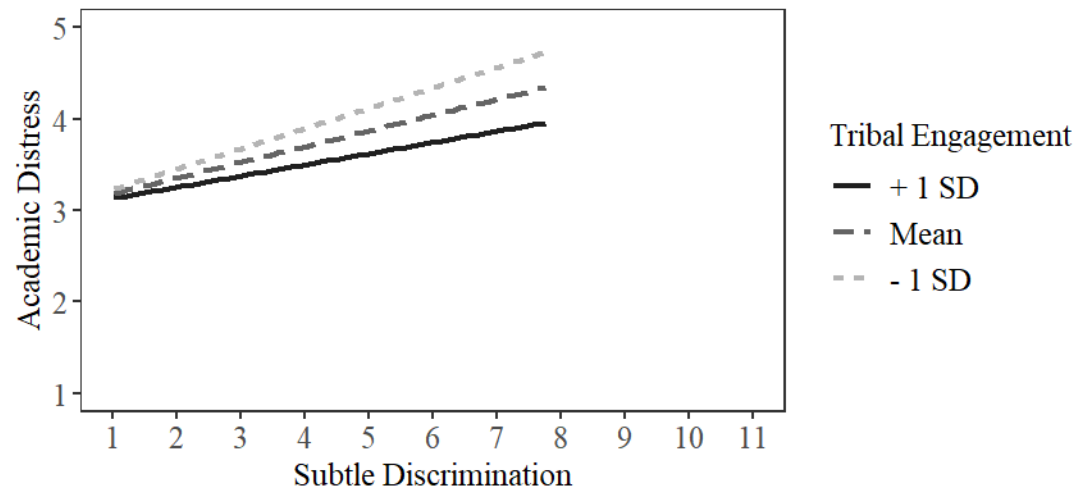
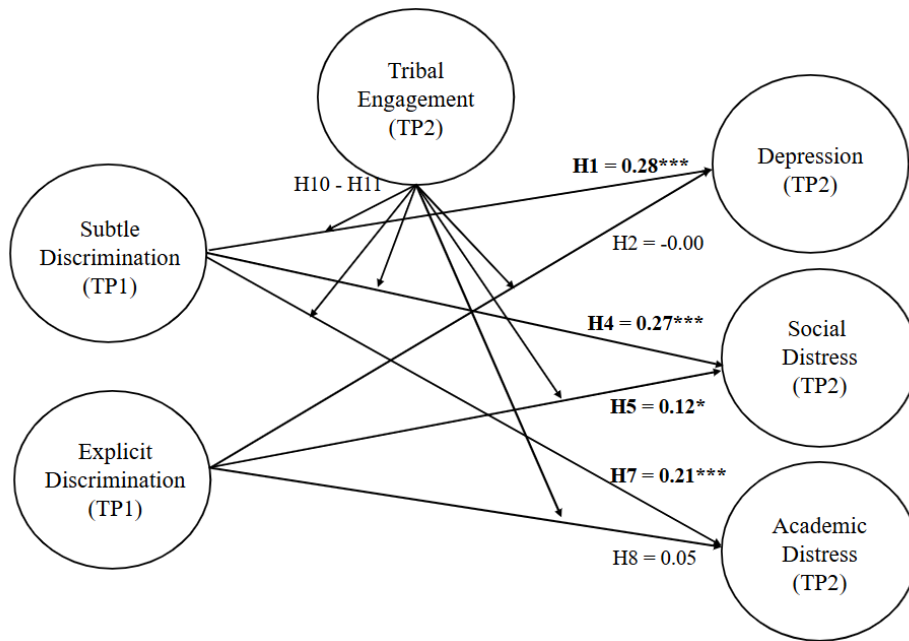


Figure 4

Structural Equational Modeling Findings



Note. H10: Tribal engagement moderates relationships between subtle discrimination and (a) depression ($\beta = -0.14$, $p = .009$) and (c) academic distress ($\beta = -0.10$, $p = .098$), but not (b) social distress ($\beta = -0.09$, $p = .113$). H11: Tribal engagement does not moderate relationships between explicit discrimination and (a) depression ($\beta = 0.05$, $p = .393$), (b) social distress ($\beta = -0.08$, $p < .135$), nor (c) academic distress ($\beta = 0.01$, $p = .850$).