

UNIVERSITY OF OKLAHOMA  
GRADUATE COLLEGE

LEADERSHIP SELF-EFFICACY IN NATIVE AMERICAN STUDENTS: EXAMINING THE  
IMPACT OF COLLECTIVE RACIAL ESTEEM, ENVIRONMENTAL EXPERIENCES, AND  
RESILIENCE

A DISSERTATION  
SUBMITTED TO THE GRADUATE FACULTY  
In partial fulfillment of the requirements for the  
Degree of  
DOCTOR OF PHILOSOPHY

By

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Norman, Oklahoma  
2021

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A DISSERTATION APPROVED FOR THE  
DEPARTMENT OF PSYCHOLOGY

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## **Acknowledgements**

To the people who have made everything in my life possible: Mom and Dad, thank you for everything.

To the people who made grad school bearable: Keegan and Kelsey, thank you for all the fun.

To the doggo who reminds me to keep my eye on the ball: Bailey, thank you for reminding me to not take life too seriously.

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## **Abstract**

This paper utilizes a structural equation modeling approach to explore the relationship between collective racial esteem, discriminatory campus climate, sociocultural conversations with peers, resilience, and leadership self-efficacy for Native American students. As a result of the 500 years of colonization, Native American communities identify resilience as one of their core values and promote leadership development as a mechanism to advance their communities. Survey results revealed that for Native American students, discriminatory campus climate has a significant, negative relationship with resilience, and resilience has a significant, positive relationship with leadership self-efficacy. White and Asian students were also surveyed to act as a control and comparison group. Results revealed that a discriminatory campus climate was only detrimental to leadership development for Native American students. Implications and recommendations for improving campus climate to promote leadership development in Native American students are discussed.

*Keywords: Native American students, leadership self-efficacy, resilience, campus climate*

## **Leadership self-efficacy in Native American students: Examining the impact of collective racial esteem, environmental experiences, and resilience**

Native American students in higher education continue to be underrepresented in research. While their enrollment may be relatively small at most institutions, some traditional 4-year institutions report enrollment as high as 5%, and at Tribal Colleges and Universities, the enrollment is far higher at 78% (National Center for Education Statistics [NCES], 2019). In 2018, 133,800 Native American people aged 18- to 24-years old were enrolled in college and made up 0.68% of the college population. Compared to other races, Native American people have the second-lowest proportion of 18- to 24-year-olds enrolled in college, with 24.2 of this age group enrolled. This is slightly ahead of the 23.8% of 18–24-year-old Pacific Islanders enrolled but lags behind 18–24-year-old Black and Hispanic populations, at 37.2% and 35.9%, respectively (NCES, 2019).

In many Native American communities, education is viewed as “a ladder,” a “weapon,” and a “tool” needed to identify and create solutions to challenges facing tribal nations (Waterman et al., 2018). Thus, education is seen as a critical part of nation-building and sustainability. A common message used to motivate students to pursue higher education is, “go to college, get your degree, then come back home and help us” (Waterman et al., 2018, p.3). Waterman and colleagues' quote highlights that a primary driver of going to college for Native American students is reciprocity—going to college to give back and advance the tribe or community. This motivation differs from the Eurocentric motivation of attending college, which is to achieve individual status and success (e.g., improved job opportunities, obtain material rewards, accumulate wealth) (Astin, 1982; Badwound & Tierney, 1988).

Developing leaders is a central mission or goal at most colleges and universities (Astin & Astin, 2000). Since the late early 1990s, there has been increasing attention on college student leadership development and the contexts to promote and enhance such development. Initial work on leadership development in college students ignored race, and the role race may play in impacting leadership development. It was not until the mid-2000s that the unique influence of race on leadership emerged and highlighted that some experiences might be significant in leadership for one racial group, but not others (Dugan et al., 2013; Dugan & Komives, 2010; Kodama & Dugan, 2013). While research has examined the role of race for White, Asian, Latino, and Black student populations, sparse research has been conducted on Native Americans. This lack of literature is particularly noteworthy given the unique cultural experiences of many Native American students.

Researchers have identified leadership self-efficacy (LSE) as foundational in leadership development. LSE is related to one's perceived capacity to be a leader and directly relates to one's decision about whether or not to attempt leadership. LSE is also a function of how one is situated in broader social systems that have historically privileged some and oppressed others (Dugan, 2011; Hannah et al., 2008). Thus, in examining LSE, it may be particularly relevant to consider the individual's racial context, which may include different social cues. Depending on race, one may feel empowered and believe that they will succeed as a leader, while others may feel hindered or discouraged from becoming a leader.

Research on leadership development among students from underrepresented racial groups tends to be qualitative. While this allows the reader to understand students' unique experiences, it does not allow for causal analyses that can then be used to understand the process of leadership development. In contrast, when leadership development is studied quantitatively, it often fails to

address racial group membership (Dugan et al., 2012), resulting in a lack of knowledge about many groups, particularly Native American students. The purpose of the current study is to understand leadership among Native American students, and in particular, better understand ways of increasing leadership efficacy in Native American undergraduate students.

## **Literature Review**

### **Leadership Development in College Students**

In understanding leadership, there are two divergent paradigms, industrial and post-industrial (Rost, 1993). The industrial paradigm of leadership development primarily focuses on the individual as a leader, promoting control, power, authority, and influence over others (Rogers, 2003; Rost, 1993). In the industrial paradigm, the focus is on tasks and autocratic leadership styles (Eagly et al., 2003). In contrast, the post-industrial leadership paradigm emphasizes interpersonal orientations and democratic leadership. It is characterized by shared goals and is described as being value-centered, non-coercive, and collaborative (Allen & Cherry, 2000; Higher Education Research Institute, 1996; Komives et al., 2005; Rogers, 2003).

The two most common leadership theories coming out of post-industrial leadership thinking are the social change model of leadership (Higher Education Research Institute, 1996) and the leadership identity development model (Komives et al., 2006).

The social change model of leadership, developed by Astin and Astin (1996), addresses leadership development explicitly in college students, emphasizing two primary goals: (1) leadership enhances learning and development through increasing individual self-knowledge and promoting collaborative work, and (2) leadership is tied to facilitating social change for the common good (Higher Education Research Institute, 1996). These two principles help students grow across seven critical values: consciousness of self, congruence, commitment, collaboration,

common purpose, controversy with civility, and citizenship. These seven values combine to manifest the eighth value, change for the common good. The eight total values interact and overlap across three domains: the individual, the group, and society (Higher Education Research Institute, 1996).

Much like the social change model of leadership, the Leadership Identity Development (LID) model posits leadership development as a collaborative process that involves the self and group influences. LID is a six-stage developmental model that moves students from a leader-centric view to one that embraces leadership as a collaborative, relational process (Komives et al., 2005). The six stages are awareness, exploration/engagement, leader identified, leadership differentiated, generativity, and integration/synthesis. The first stage of leadership development, awareness, is when students acknowledge or recognize that leaders exist. The second stage, exploration/engagement, occurs when students begin to get involved in groups and take on responsibilities, but not in a leadership role. Example engagements include joining a sports club, student council, or community service. In the third stage, leader identified, students begin to associate certain positions within a group as being leadership positions. During the fourth stage, leadership differentiated, and students begin to see that leaders are those in leadership positions and those who exhibit leadership skills. In the fifth stage, generativity, students look beyond themselves and gain a commitment to and passion for their communities. In stage six, integration/synthesis, students identify what talent and strengths they can offer to other groups. The process within each stage, or how an individual moves from one stage to the next, is guided by self-awareness, group influences, changing view of self because of group influences, and then ultimately to a broadening view of leadership (Komives et al., 2005, 2006).

In looking at these two models, and other contemporary leadership theories, three themes emerge to describe leadership: (1) the importance of self-awareness in understanding oneself in relation to others, (2) ethics, moral leadership, and social responsibility in framing leadership as directed toward a positive, common outcome, and (3) redistribution of power and shared leadership, reflecting a partnership-oriented approach in leadership efforts (Dugan & Komives, 2010).

Utilizing these theories and frameworks, researchers have made a distinction between leadership capacity and leadership self-efficacy. Leadership capacity is one's ability to be a leader based on knowledge, skills, and values, whereas leadership self-efficacy is one's self-belief in one's ability to be a leader, which can, in turn, enhance or inhibit capacity (Dugan, 2011; Dugan et al., 2012). Leadership self-efficacy has become one of the most important concepts to emerge from recent leadership development literature.

### **Leadership Self-Efficacy**

The construct of self-efficacy arises from social cognitive theory, which posits that learning, and subsequent behaviors, are due to a reciprocal process of personal, environmental, and behavioral factors (Bandura, 1997). It is defined as the "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p.3), and it affects choice of activity, persistence, and performance. When facing a problem, individuals with high self-efficacy are more devoted and persist longer than those with low self-efficacy (Robbins et al., 2004).

Research has demonstrated a strong positive relationship between self-efficacy and various criteria of human performance in organizations. For example, in a meta-analysis of 114 studies, an average weighted correlation of .38 between self-efficacy and work-related

performance was reported (Stajkovic & Luthans, 1998). Within a school context, studies have confirmed that students with a high self-efficacy in math and science, the belief that they can perform well in these topics, are more likely to pursue a major in the fields of science, technology, engineering, and mathematics (STEM), as well as persist in these fields more so than peers with low self-efficacy (Schaefer et al., 1997).

Leadership self-efficacy has been defined in numerous ways. Murphy and Ensher (1999) defined leadership self-efficacy as a “leader’s estimate of his or her ability to fulfill the leadership role” (p. 1374). Paglis and Green’s (2002) definition describes leadership self-efficacy as one’s judgment that he or she can successfully exert a positive influence in a group. For the current paper, themes from these two definitions are combined to define leadership self-efficacy as the leader’s confidence in their abilities, knowledge, and skills in the areas needed to lead others effectively.

Self-efficacy beliefs regarding leadership development are impacted by developmental experiences and learning orientation. Developmental experiences that include feedback, challenges, and support provide leaders with the motivation and resources needed for learning (McCauley & Van Velsor, 2004). Feedback identifies gaps between current and ideal state, and clarifies changes required to close such gaps (McCauley & Van Velsor, 2004). Challenges force an individual to expand outside his or her comfort zone and provide an opportunity to experiment with different strategies and exposure to different perspectives (McCauley et al., 1994). Support is necessary because development requires experimentation with new techniques, and people are more likely to try new practices when supported by other people (Machida & Schaubroeck, 2011). The second factor, learning orientation, represents learning mastery and increasing competence (Dweck, 1975). Individuals high in learning orientation are motivated to

investigate new methods and tactics, improving one's capabilities for the longer term (Dweck, 1986).

***Role of LSE in Leadership Development*** Scholars have noted a distinction between leadership self-efficacy and leadership capacity (Anderson et al., 2008). Leadership capacity involves the knowledge, skills, and attitudes that encompass an individual's ability to engage in leadership behaviors effectively (Dugan, 2011). Leadership self-efficacy represents an individual's internal belief regarding their abilities to be successful in the leadership process (Hannah et al., 2008), and it is through leadership self-efficacy, the belief that a person can be successful as a leader, that leadership development occurs. Leadership development is how individuals understand and engage in leadership experiences (Day et al., 2009). Additionally, Anderson and colleague's (2008) study showed that LSE and leadership effectiveness have distinct taxonomic structures and suggested the utility of LSE to predict, understand, and develop effective leadership.

It is often stated that leadership self-efficacy promotes leadership development (Hannah et al., 2008); however, this interaction is often more complex than articulated. Based on social cognitive theory, Machida and Schaubroeck (2011) proposed that there are four aspects of self-efficacy that impact promote or deter leadership development in an individual: (1) preparatory self-efficacy, (2) efficacy spirals, (3) learning self-efficacy, and (4) resilient self-efficacy. Preparatory self-efficacy is one's efficacy for executing and completing a task during preparatory situations (e.g., learning, practicing, rehearsing) (Bandura, 1997). Bandura posits that the optimal amount of self-efficacy during training is similar to an inverted U-shape. This suggests that at the extreme ends of self-efficacy, motivation during training is negatively affected because the learner feels that practicing is unnecessary (self-efficacy too high), or it will not lead to



improvements (self-efficacy too low) (Bandura, 1997). Efficacy spirals refer to fluctuations in self-efficacy beliefs and are tied to performance (Lindsley et al., 1995) and involve upward spirals (increasing self-efficacy and performance), downward spirals (decreasing self-efficacy and performance), and self-correcting cycles (decrease in performance and self-efficacy is followed by an increase in performance or self-efficacy, and vice-versa) (Lindsley et al., 1995). For leader development, a self-correcting cycle of self-efficacy and performance is ideal to allow a learner to engage in critical evaluation of performance and identify new task strategies necessary for learning. Learning self-efficacy refers to judgments about one's ability to learn and master a new skill, and then use that mastery to accomplish a task in the performance situation (Pintrich et al., 1991). Learning self-efficacy and leader development are directly linked because a learner will not participate in necessary preparatory work if they are not confident that this will lead to positive changes in learning. Lastly, resilient self-efficacy highlights that efficacy beliefs are quite fragile (Bandura, 1997). They are continually updated based on successes and failures that are encountered throughout the development process. Individuals who possess stable and firm efficacy beliefs, despite challenges and failures, will persist and thrive in their learning and subsequent development.

LSE has been noted for its important role in meeting today's leadership challenges of inspiring others, leading a team, and guiding change (Center for Creative Leadership, 2020; Hannah et al., 2008). More specifically, it has been found to have a positive influence on various leadership outcomes, such as engagement, performance, potential, leadership identification, and performance reviews (Hannah et al., 2008). In their review of leadership efficacy, Hannah and colleagues (2008) posit that LSE influences the way individuals conduct leadership tasks, understand leadership challenges, and motivate themselves during leadership challenges.

Within the scope of college student leadership, LSE has been found to be a crucial component of whether or not a student will develop leadership skills (Astin & Astin, 2000). Additionally, it has been positively linked to leadership engagement, effectiveness, and socially responsible leadership capacity (Dugan & Komives, 2010; Kezar & Moriarty, 2000; McCormick et al., 2002). One study found that for 223 upper-division college students, leadership self-efficacy was positively related to the frequency with which a person attempted to assume a leadership position (McCormick et al., 2002). An additional study focusing on college student leadership found that LSE was positively related to socially responsible leadership capacity, contributing between 8%-12% of the variance explained (Dugan & Komives, 2010).

*Predictors of LSE* Bandura (1997) posited that people's belief in their efficacy is influenced by four sources: (1) mastery experiences, (2) vicarious experience, (3) social persuasion, and (4) emotional states. Mastery experiences refer to the experiences one gains when taking on a new challenge and is the most influential of the four because it is the "most authentic evidence" of whether one has what it takes to succeed (Bandura, 1997, p.3). Vicarious experiences refer to seeing someone similar to oneself succeed. It promotes self-efficacy beliefs because one begins to believe that they too possess the necessary capabilities to succeed. Social persuasion refers to receiving positive verbal feedback when completing a task. Lastly, emotional states refer to one's well-being and impact self-efficacy beliefs because a poor emotional, physical, or psychological state can promote self-doubts. These four sources of self-efficacy and how they are found in the college student experience and impact subsequent development have been investigated in prior research.

Two conceptual frameworks that are frequently used to understand leadership self-efficacy in college students are the college impact model and the model of student socialization.

The college impact model, also known as the inputs-environment-outcome model, emphasizes the impact of environmental experiences and suggests that students grow or change differently under varying environmental conditions, such as campus climate or campus organizations (Astin & Astin, 2000). The student socialization model incorporates the importance of non-college reference groups, such as employers and off-campus community organizations (Weidman, 1989). These two frameworks act as the foundation to exploring predictors of leadership self-efficacy in college students.

In one of the first studies looking at predictors of leadership self-efficacy, Dugan, Garland, Jacoby, and Gasiorski (2008) identified the college environmental contributions of sociocultural conversations with peers, holding a leadership position in a college organization, and having a mentor as positively related to LSE. McCormick et al. (2002) also found previous leadership experience as a strong, positive predictor of LSE. This finding aligns with Bandura's (1997) theory that mastery experiences are the most authentic, and thus, the most robust predictor of self-efficacy. Extending their 2008 research, Dugan and colleagues (2012) found that being a member in a student origination, being a member in an off-campus organization, and participating in community service all positively contributed to leadership self-efficacy in addition to the factors found by Dugan et al. (2008).

When considering predictors of LSE, it's also essential to consider social contexts, such as the impact of race (Ayman & Korabik, 2010; Ospina & Foldy, 2009). LSE disaggregated by race reveals that specific environmental experiences and social experiences are positively related to LSE for students who identify as members of some racial groups, but not all. For instance, being a member of a student organization or an off-campus organization is positively predictive of LSE for Black and Asian American students, but not White students (Dugan et al., 2012;

Kodama & Dugan, 2013). The only environmental variable that is significant across all races is sociocultural conversations with peers (Dugan et al., 2012; Kodama & Dugan, 2013). Additional research is needed to understand the unique influences on LSE development for Native American students, given the limited research to date.

Gender has also been found to influence LSE, such that women are less benefited by particular experiences. Even when women have the same leadership experience as men, they are less confident about their leadership capabilities, and they are less likely to attempt a leadership role when given the opportunity (McCormick et al., 2002). Examining the impact of gender across all races, identifying as female is negatively related to LSE; however, when gender is disaggregated across racial groups, gender, specifically identifying as female, is a negative predictor of LSE for White students, while gender is not a significant predictor of LSE for the other four racial groups tested (Dugan et al., 2012).

### **Role of Race in Leadership Development**

Race is often central to how people define themselves, either explicitly or implicitly (Yanow, 2003), and may inform leadership development. Race, and the social context within which race occurs, shapes students' values, social practices, and beliefs about how they are perceived and treated by others (Bandura, 1997).

The persistent stereotype of leaders as White males continues to result in women and people of color experiencing challenges not felt by White leaders, such as not being perceived as legitimate and followers challenging their authority as leaders (Chung-Herrera & Lankau, 2005; Fitzgerald, 2006; Knight et al., 2003; Rosette et al., 2008). This questioning of legitimacy and lack of commitment from followers represents social persuasion, one of Bandura's self-efficacy

sources, and can lead to a decline in leadership efficacy and subsequent leadership development (Bandura, 1997).

Examining students of color's leadership experiences, Arminio and colleagues (2000) identified four pervasive themes that are unique to students of color as they develop into leaders. First, there is a disdain for the label "leader." Some student leaders of color object to this label because the term suggests that they have bought into the system that has traditionally oppressed their racial group. Others did not view themselves as a leader but rather as helping out fellow students. Similarly, the second theme was group loyalty over individual needs. Those who sought a leadership role did so for the group, whether that be their community or their race, not for personal benefit. The third theme was the individual costs of holding leadership positions. Leadership development often emphasizes the benefits of being a leader, but for student leaders of color, they often felt stress because they were either not able to do enough for everyone, or they had to be careful of not being considered too radical, or not radical enough. Lastly, student leaders of color describe having to wear different masks depending on the group they were a leader in. If it was a same race group, they were able to act freely and fulfill development and cultural congruency needs, but if it was a predominately White group, they felt that they had to act as a spokesperson on behalf of their race (Arminio et al., 2000; Helms, 1993).

Differences in leadership development across students in various racial groups have been documented in research, but only through a handful of empirical studies, none of which have included Native American students (Arminio et al., 2000; Dugan et al., 2008, 2008; Kezar & Moriarty, 2000; Kodama & Dugan, 2013). In one of the first leadership development studies to disaggregate college students by race, Kodama & Dugan (2013) found that racial group membership and environmental experiences impacted leadership self-efficacy. Black students

indicated significantly higher leadership self-efficacy than the other racial groups—White, Asian, Latino, and multiracial students. In contrast, Asian American students had significantly lower leadership self-efficacy scores than the other racial groups (Kodama & Dugan, 2013).

Predictors of leadership self-efficacy and subsequent development vary across students who identify as belonging to different racial groups. Examining predictors across all races, six college environmental experiences were found to impact leadership self-efficacy; however, when this was disaggregated by racial group, only one environmental experience, sociocultural conversations with peers, was found to be positively predictive of leadership self-efficacy across all racial groups (Dugan et al., 2012). Specifically, faculty mentoring, often considered influential on development, was only significant for White, Black, and Asian students, not Latino students; but, mentoring from other students was significant for Latino students, but not the other racial groups (Dugan et al., 2012). This highlights how a singular experience, such as mentoring, can be influential to all racial groups as long as the vehicle in which it is delivered is appropriately aligned to the racial group.

The literature on Native American student leadership development is sparse. Articles can be found on general leadership within Native American communities or on factors impacting Native American college success, but research specifically on leadership development among Native American students is almost non-existent. A dissertation completed in 2012 provides a qualitative perspective on Native American student leadership development, specifically, how this leadership development is shaped by tribal values, families, and home communities (Williams, 2012). To date, no other qualitative and no quantitative studies could be found on Native American student leadership development. The following section reviews the factors that have impacted leadership development in Native American communities.

## **Native American Leadership Perspectives**

The two previous leadership development theories discussed take a Eurocentric perspective and do not capture the unique experiences of Native Americans, nor how these unique experiences shape leadership development. For Native American students, there is no all-encompassing model that defines leadership. Native American students come from 574 tribes, each with their own core values and teachings that cannot be translated into one singular model. Rather than focusing on a model to understanding Native American leadership, it is important to examine factors that have contributed to and shaped Native American leadership development—historical trauma and issues surrounding identity (Harris & Wasilewski, 1992).

***Historical Trauma*** Historical trauma is trauma that is multigeneration and cumulative over time and extends beyond the life span. Native Americans are not the only group to ever experience historical trauma, but they are one of the only groups that have been unable to flee their systematic oppression. Most oppressed groups can escape genocides by fleeing to another country that offers refuge. Most often, this is the United States. But for Native Americans, the United States has been the perpetrator and they have not been able to escape elsewhere. As Kehoe (1989) states, “Where was America for American Indians? No other country welcomed them as immigrants, no other country promised them what was their native land had denied them” (p. 133).

Duran and Duran (1995) outline six phases of historical trauma felt by Native Americans that have shaped their identity: (1) first contact with European settlers where the lifeworld of Native Americans was disrupted and systematically destroyed, (2) economic competition where Native Americans lost both their physical and spiritual sustenance, (3) invasion war period where the U.S. government displaced Native Americans from their native lands and killed those who

would not leave, (4) subjugation and reservation period where boundaries were placed on where Native Americans could live, (5) boarding school period where children were separated from families, and (6) forced relocation and termination period where Native Americans have been relocated from reservations into large metropolitan areas. The actions by the U.S. government have actively tried to dismantle Native American culture by breaking up families and communities. This trauma is one factor that has led to “giving back to the community” as one of the often-cited core values of Native American leadership.

Such trauma has also shaped Native American leaders to view hardships as a strengthening force in leaders' lives and a catalyst for developing empathy and understanding. As stated by Pewewardy (2015), “the first thing that comes to mind when someone introduces me to an Indigenous leader is to inquire about their battle scars within their professional life, meaning what history lessons do these leaders have to share” (p.71). Thus, one cannot understand Native American leadership values without recognizing the role and impact of historical trauma (Duran et al., 1989).

***Cultural Identity and Values*** Native Americans' perceptions of leadership are not only shaped by historical events but also by the communities in which they live and serve. There are currently 574 federally recognized tribes (Bureau of Indian Affairs, 2020), each with its own values and practices. Across these tribes, researchers have identified commonly shared values such as sharing, cooperation, noninterference, sense of being, the importance of the tribe/community and extended family, harmony with nature, present-time orientation, preference for an explanation of natural phenomena according to the spiritual realm, and deep respect for elders (Garrett, 1995, 1996a, 1996b). These values have led Native American leaders to be



concerned about the welfare of a group as a whole rather than focusing on individual wealth and prestige.

***Leadership Development Values*** The process of leadership development is shaped not only by historical trauma and cultural identity and values but also by the community where leadership is needed. Grahn and colleagues (2001) interviewed and surveyed Native Americans and White leaders to identify the leadership traits most valued by leaders. Across 23 items, the researchers found that the item that asked, “how important is it for a leader to be able to understand the desires of the people and make decisions that will benefit the majority” was rated as the least important trait of a leader by White leaders and the second most important trait by Native American leaders. This highlights how leadership is shaped by the community and the populations in which Native American leaders serve. Other vital characteristics identified by Native American leaders were “possessing a strong commitment to honesty in working and personal relationships,” and “knowledge about legislation and laws affecting people.”

Johnson (1997) interviewed female Native American leaders. He found five emerging themes on how Native Americans view leadership: (1) a commitment to serving the community, (2) the emergence and claiming of one’s Native voice, (3) education as a key to cultural survival and self-determination, (4) travelers across boundaries, and (5) the spirit and soul of Native leadership. In describing the theme of travelers across boundaries, Johnson notes that the leaders had to possess skills that allowed them to communicate across cultures to help promote understanding, both for the Native American community and the other culture’s community. For example, one leader described serving as a leader by moving outside of her native community to work at an institution on the other side of the cultural divide. In doing so, she was able to educate others about the Native American community and learn of essential services that could benefit

her Native community, in this instance, working with an official to secure small-business loans (Johnson, 1997).

Williams (2012) interviewed Native American college student leaders attending predominately White institutions to understand leadership development. The researcher found that Native student leaders navigate their institutions and find their voices to advocate for other Native students who cannot speak up. These leaders describe being committed, proactive, open-minded, respectful, and humble as essential traits for Native American student leaders. Three themes emerged when discussing Native American leadership: (1) commitment, (2) community, and (3) collaboration. For commitment, the student leaders described the importance of being determined, dedicated, patient, and brave. For community, the student leaders discussed a responsibility to the community and developing a voice and vision that brings awareness to the community. One student stated that, "I am nothing without my community...I am only because they are... The whole reason I am doing this is for my community, not for me" (Williams, 2012, p. 141). For collaboration, the student leaders described the importance of being open-minded, fair, cooperative, and understanding.

### **The Role of Racial Identity in Native American Leadership Development**

Given the influence of race in college student leadership development, it is crucial to give attention to not just racial group membership but also racial identity (Arminio et al., 2000; Komives et al., 2005; Renn & Ozaki, 2010). Racial identity is defined as the collective identity of any group of people who have been socialized to think of themselves as a racial group and is the necessary construct when trying to understand how individuals construct their identities in response to an oppressive and highly racialized society (Cokley, 2007; Helms & Cook, 1999).

The process of racial identity development moves from a negative and externally defined view to a positive internally defined view (Cross, 1991; Helms, 1993). Through this process, the individual develops increased racial self-acceptance and acceptance of racial others (Abrams & Trusty, 2004). Within a college context, researchers have found that for students of color on predominately White campuses, those who can integrate components of their own cultural beliefs with components of the dominant culture experience a more adaptive adjustment (Sellers et al., 1998; Sennett et al., 2003). Native American students who have a strong sense of self and can resolve racial issues successfully are more likely to experience greater academic success and degree persistence (Guillory & Wolverton, 2008; Tippett, 2007; Watson, 2009). Thus, through a strong sense of racial identity, a student can leverage their cultural values to navigate the challenges and sometimes unjust environment of college where they are the racial minority. Interestingly, researchers have found that White students on predominately White campuses who have less advanced and less integrated racial identity attitudes (i.e., poor racial identity), experience greater levels of maladjustment. This suggests that both minority and non-minority students benefit from racial self-acceptance and acceptance of others.

***Collective Racial Esteem*** Social identity theory suggests that individuals belong to certain social groups, and membership to these social groups has value and emotional significance (Tajfel, 1972). Identification with groups that have social meaning, such as race or gender, provides members with a shared identity that prescribes and evaluates who they are, what they should believe, and how they should act (Tajfel & Turner, 1979). According to this theory, individuals strive to have a positive personal identity and a positive collective identity (Tajfel & Turner, 1986). To measure collective identity, Luhtanen and Crocker (1992) created the Collective Self-Esteem Scale to measure four aspects that inform how individuals construct their

self-concepts related to the social groups with which they identify. When the scale is used to measure collective self-esteem pertaining to race, it is referred to as the collective racial esteem (CRE) scale (Crocker et al., 1994).

Collective racial esteem is comprised of four subscales. Private CRE refers to an internal evaluation of the value of one's racial group. Public CRE acknowledges one's beliefs about how others view their racial group. Identity salience is the degree of centrality of racial group membership to one's self-concept. Lastly, membership affiliation reflects one's personal beliefs about how well they function as members of their racial group.

Research has shown that these four aspects of CRE can capture the impact of race on college student development (Dugan et al., 2012; Kodama & Dugan, 2013). Dugan et al. (Dugan et al., 2012) investigated the influence of CRE on socially responsible leadership outcomes for college 8,512 students across five racial groups. They found that CRE explained triple the variance than racial category alone, suggesting the importance of understanding and investigating the impact of racial esteem on leadership development. Results revealed that only one of the four sub-scales, identity salience, was negatively predictive of leadership self-efficacy across all of the racial groups tested, suggesting that the greater the extent to which one's self-concept is aligned with one's racial group, the less likely they are to develop LSE. This finding aligns with previous studies that reveal that students who are not opened to listening to and considering the perspectives of other racial groups report greater levels of maladjustment (Kerr, 1997; Sellers et al., 1998; Sennett et al., 2003). Private collective racial esteem was positively related to LSE for Black, Asian, and Latino students, but not White students. Public collective racial esteem was predictive for White and Asian students only. Lastly, membership affiliation was significant for White, Black, and Latino students, but not Asian American students.

No study to date has looked at the impact of CRE on leadership development in Native American students. Such research is fundamental, given that Native Americans have a strong connection to their community and have a sense of pride in their culture and heritage (Peralez, 2021). This pride may increase the impact of different CRE subdimensions, particularly private CRE and Identity Salience, and be influential in cultivating LSE. Additionally, CRE may buffer against the negative effects of not holding leadership positions, given that Native Americans have traditionally been underrepresented in leadership positions, except within their communities.

**Hypothesis 1** Three aspects of CRE (Private CRE, Public CRE, Membership Affiliation) will have a positive, significant relationship with LSE, and Identity Salience will have a negative impact on LSE.

**Research Question 1a** Does the strength of the relationship between each aspect of CRE and LSE differ?

**Research Question 1b** How does race impact the strength of the relationship between the four aspects of CRE and LSE?

***Discriminatory Campus Climate*** Research has demonstrated the negative impacts of a hostile or discriminatory campus climate on student outcomes, such as lower academic self-confidence, a lower sense of belonging, and a poorer psychological well-being (Cress & Ikeda, 2003; Nguyen et al., 2018). A discriminatory campus climate is particularly harmful when felt by students who are in the minority. For example, in examining discriminatory campus climate and its outcome on leadership, Lo (2011) and Kwon (2009) found that experiencing discrimination on campus did not significantly effect leadership involvement for Asian students who were the majority racial group on campus. However, the opposite held true for Asian students who were

the minority racial group on campus. These students reported significant, negative effects on leadership involvement.

**Hypothesis 2** Discriminatory Campus Climate will have a negative relationship with LSE, such that students who perceive the campus climate to be discriminatory will report lower levels of LSE.

**Research Question 2** How does race impact the strength of the relationship between Discriminatory Campus Climate and LSE?

**Environmental inputs** Environmental inputs include sociocultural conversations with peers and holding a leadership position. Sociocultural conversations with peers involve conversing with peers who hold different beliefs, values, and customs than oneself on sociocultural topics—for example, talking with a peer who holds different political beliefs on the results of a recent election. These conversations are regarded as a “high impact learning practices” (Kuh, 2008) because they provide an opportunity to experiment with communication skills and navigate difficult conversations. In a meta-analysis, Bowman (2010) found that informal conversations about differences with peers had a greater impact on civic outcomes than other types of diversity experiences. Holding leadership positions allows students the opportunity to learn and practice the skills that are necessary to lead others. This experience is tied to mastery experience, the most influential factor in developing self-efficacy (Bandura, 1997).

**Hypothesis 3** Environmental inputs will have a positive relationship with LSE, such that students who report having Sociocultural Conversations with Peers and holding leadership positions will report higher levels of LSE.

**Research Question 3** How does race impact the strength of the relationship between environmental inputs and LSE?

## **The Role of Resilience in Racial Identity and Leadership Self-Efficacy**

Another construct that may be beneficial in leadership development and is impacted by racial identity is resilience. Resilience has been defined in numerous ways across different disciplines (Ledesma, 2014). Within the organizational and leadership literature, resilience is defined as the ability to “bounce back” from adversity, uncertainty, obstacles, conflict, or failure (Luthans et al., 2007). By bouncing back, a person builds competency and self-confidence to successfully deal with, and recover from, future challenges (Eliot, 2020).

Alongside the many definitions of resilience, there is also a debate about the conceptualization of resilience as either a personality trait or a dynamic process. When viewed as a personality trait, resilience is seen as individual differences that act of protective factors against adversity, such as positive emotions, extraversion, and spirituality (Bogar & Hulse-Killacky, 2006; Campbell-Sills et al., 2006; Connor & Davidson, 2003; Tugade & Fredrickson, 2004). Resilience has also been conceptualized as a dynamic process of positive adaptation that can change over time (Luthar et al., 2000). This view recognizes that resilience can vary contextually (i.e., from situation to situation) and temporally (i.e., throughout the lifespan) (Davydov et al., 2010). Prior research has confirmed that resilience can change over time. For example, in examining high-level athletes Galli and Vealey (2008) found that when faced with challenges, these athletes reported small and gradual positive adaptations that required numerous shifts of thought. This finding highlights that individuals use a range of coping strategies to deal with challenges and that resilience develops over time in response to person-environment interactions (Egeland et al., 1993). Thus, for this study, we view resilience as a dynamic process that functions as a result of protective and environmental factors, and the interaction between these two.

Previous research indicates that strong racial and ethnic identity contributes to the development of resilience (Clauss-Ehlers, 2006). In their study on minority college students at a predominately White institution, Clauss-Ehlers (2006) found that a strong racial and ethnic identity was predictive of resilience in response to stress, suggesting the potential benefit of cultural resilience in coping. In a similar study, Poon (2013) found that a strong sense of racial identity was important in developing resilience in order to withstand daily acts of racism. Students who described a strong racial identity were more secure in their thoughts and actions, allowing them to better understand and negotiate the social contexts around them. Through this process, they increased and developed resilience. Research conducted across diverse populations echoes these findings that a strong racial, ethnic, and/or cultural identity is linked to increased resilience (Belgrave et al., 2000; Butler-Barnes et al., 2018; Crocker et al., 1994; Dugan et al., 2013; Hufana & Morgan Consoli, 2020).

Looking at CRE specifically, Kodama and Dugan (2019) found that Private and Public CRE had a positive significant impact on resilience, further solidifies the importance of collective identity in the development of resilience, especially for minorities (Tummala-Narra, 2007). Kodama and Dugan (2019) also found that identity salience had a negative relationship with resilience and suggested that this occurs because students with high identity salience attribute racism to external factors that are outside of their control, and therefore do not develop the internal resilience necessary to deal with and confront challenges posed by racism. Lastly, a non-discriminatory campus climate had a negative relationship with resilience, such that students who perceived a less discriminatory climate had lower levels of resilience. This is in line with previous research that highlights that challenges and struggles are necessary prerequisites for resilience (Howard & Irving, 2013).



Resilience has also been linked to leadership and is an important component for successful leadership. The problems faced by leaders tend to be complex, novel, and ambiguous; thus, resilience is necessary to the leadership process because it not only helps leaders persist in the face of adversity but it also equips them for future obstacles (Heifetz & Linsky, 2004; Luthans et al., 2007; Mumford et al., 2000).

The influential role of resilience has also been linked to the development of self-efficacy. Bandura (1997) stressed the importance of having a resilient self-efficacy in order to develop skills and regulate performance. Without “firmly established” beliefs, one will be easily discouraged during situations that contain adversity, uncertainty, or failure (Bandura, 1997). Machida and Schaubroeck (2011) expanded on Bandura’s theory and said that resilience is critically important when attempting to learn a new skill in order to accomplish a task. Without resilience, a leader will likely lose motivation and miss out on the opportunity to learn new skills. Furthermore, leaders who possess high resiliency will continue to strive even when they continue to fail at learning a new skill because they are confident that, despite their diminished beliefs about their current aptitude, they can learn and thrive from this experience (Hannah et al., 2008; Hannah & Lester, 2009; Machida & Schaubroeck, 2011).

Resilience is central to Native American’s identities because they have endured 500 years of colonization and attempts to assimilate their communities into the dominant society. While pieces of their language, teachings, and culture have been lost over time, it has never been fully lost. Native Americans view themselves as survivors and a common message shared with the youth is “be resilience, overcome.”

Studies investigating resiliency in Native American students have found that culture, like stories and prayers, has played a strong role in boosting a student’s resilience and help them to

persist in their studies (Peralez, 2021). Thus, for Native American students, their culture and racial identity have helped them, not hindered them, in college, and it's reasonable to believe that their culture and racial identity can also enhance their self-perceptions of their leadership abilities. Investigating the relationship between racial identity, resilience, and LSE may be useful in understanding how college students develop as leaders. Additionally, research in this area can have practical implications for college counselors in bolstering minority students' beliefs in their leadership ability.

Given the literature on Native American students and leadership development in college students, a nine-factor structural model is proposed (see Figure 1). This model illustrates the influence of CRE, discriminatory campus climates, and environmental inputs on LSE and the mediation of resilience between these inputs and LSE.

**Hypothesis 4a** The four aspects of CRE (Private CRE, Public CRE, Identity Salience, Membership Affiliation) will have a positive, significant relationship with resilience.

**Hypothesis 4b** Discriminatory Campus Climate will have a positive, significant relationship with resilience, such that students who report higher levels of discrimination on campus will report higher levels of resilience.

**Hypothesis 4c** Environmental inputs will have a positive, significant relationship with resilience, such that students who engage in more Sociocultural Conversations with Peers and hold leadership positions will have report higher levels of resilience.

**Hypothesis 4d** Resilience will have a positive, significant relationship with LSE.

**Hypothesis 5a** Resilience will mediate the relationship between the four aspects of CRE and LSE.

**Hypothesis 5b** Resilience will mediate the relationship between Discriminatory Campus Climate and LSE.

**Hypothesis 5c** Resilience will mediate the relationship between Environmental Inputs and LSE.

## **Method**

### **Participants and Procedure**

Data was collected via an online survey over five semesters, Fall 2018 through Fall 2020, at a southcentral public university that has a high enrollment of Native American students. The sample included Native American, White, and Asian students. White and Asian students were included as comparison groups because research has found significant impacts of CRE on LSE for these two groups.

The sample consisted of 238 Native American students (39.0%), 218 White students (35.7%), and 154 Asian students (25.2%). The academic standing of the sample consisted of 36 Freshmen (5.9%), 123 Sophomores (20.2%), 169 Juniors (27.7%), and 281 Seniors (46.1%). Academic standing was determined by the number of credit hours completed. The gender breakdown was 32.5% male and 62.5% female.

The measures are part of a larger survey that examines student achievement in Native American students. Eligible students are invited to participate in an online survey, and then every semester following their first survey, they are invited to take an additional survey. Thus, it is possible for someone to take a survey each semester that data was collected, resulting in five completed surveys. For the purposes of this study, only the first time point will be used. The survey in total takes 30 to 45 minutes to complete, and participants are compensated with a \$20 gift card for every survey they complete. At the end of each semester, the data was cleaned,

organized, and any participant who failed to respond to at least 60% of the items and correctly answer two of the three attention check questions, was flagged as an invalid participant and not included in any analyses. To limit survey fatigue, participants were sent individualized links that allowed them to complete the survey at their own pace. Additionally, measures were randomized within the survey to reduce method bias.

Before the survey launched in Fall 2018, a focus group was conducted with Native American students to seek their input on survey design and item construction. During this focus group, the students indicated that they prefer the term Native American over other naming conventions. Thus, Native Americans is used to refer to this racial group throughout the paper.

## **Measures**

*Leadership self-efficacy (LSE)* Leadership self-efficacy was measured using a four-item measure that asks participants to identify the extent to which they would be confident doing the following: leading others, organizing a group's tasks to accomplish a goal, taking the initiative to improve something, and working with a team on a group project. Students responded to these four items on a 4-point Likert scale that ranges from not at all confident (1) to very confident (4). Reliability levels for previous use of this scale were .87 or .88 for all racial groups (Dugan et al., 2012).

*Collective racial esteem (CRE)* The four components of CRE— Public, Private, Membership Affiliation, and Identity Salience— were measured using scales created by Luthanen and Crocker (1992). Each scale is composed of four items which participants responded on a 5-point scale with possible responses ranging from strongly disagree (1) to strongly agree (5). A sample item for Private CRE reads, "I'm glad to be a member of my racial group" and a sample item for Public CRE reads, "In general, others respect my race."

***Discriminatory Campus climate*** Discriminatory Campus Climate was measured using a 5-item scale developed for the Multi-Institutional Study of Leadership (Dugan, Komives & Associates, 2012) that asks participants the degree to which they have observed or experienced discrimination on campus. Responses were recorded on a 5-point Likert scale from strongly disagree (1) to strongly agree (5). A sample item includes, “I have observed discriminatory words, behaviors, or gestures directed at people like me.”

***Leadership Experience*** Leadership experience was measured with six items asking students if they have participated in student organizations and if they have held a leadership position in these organizations. The items on this scale were measured on a yes (1) no (0) scale.

***Sociocultural Conversations*** Sociocultural Conversations with Peers (Dugan & Komives, 2010) was measured by asking students how frequently they engage in conversations with peers about six kinds of sociocultural-related topics. Item responses were measured on a six-point scale ranging from Never (1) to Very Frequency (6). A sample item reads, “how often do you engage in conversations with peers who have different political views than your own.”

***Resilience*** Resilience was measured by using the 10-item Connor Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003). This measure asked students their agreement with statements regarding their ability to manage stress and challenges in their lives in the past month. Responses are recorded on a 5-point Likert scale with answers ranging from not at all true (1) to true nearly all the time (5). A sample item reads, “I can deal with whatever comes my way.” Using this scale in college students has yielded a Cronbach’s  $\alpha$  of .91.

***Demographic variables*** Demographic variables for this study included age, gender, and academic standing (e.g., first year). These three demographic variables were self-reported.

## **Structural Model and Analyses**

This study utilized Structural Equation Modeling (SEM) to test the proposed hypotheses. Both a factor and structural path analysis were used to test the variables of interests and the relationships between them. The goal of these analyses was to empirically test the relationship between Collective Racial Esteem, Environmental Experiences, and Resilience on the outcome of LSE for Native American students (see Figure 1). Analyses followed Anderson and Gerbing's (1988) two-step approach to testing SEMs. Direct path analyses were also conducted for the exogenous variables to LSE. The last analyses were analyzing the model for differences across race and across gender. This was explored using multiple group analyses. All analyses were conducting using MPlus.

## **Results**

### **Structural Equation Model Testing**

The first step in test a full, structural model is to confirm the measurement model, in other words, test the latent factors as appropriate constructs for further analyses (Anderson & Gerbing, 1988). Confirmatory factor analysis (CFA) was conducted on each of the latent factors in the model: Private CRE, Public CRE, Identity Salience CRE, Membership CRE, Discriminatory Campus Climate, Sociocultural Conversations, Resilience, and LSE. The factor Identity-Based Experiences acts as a single-item scale since it is a measured variable rather than an actual scale; thus, no CFA was necessary to test the loadings of that single-indicator factor.

### **Collective Racial Esteem Scales**

The first set of CFAs involved testing the four CRE subscales to confirm their appropriateness for use in the full SEM. The four CRE subscales with two items each was a good fit with a chi-square of 25.278 (14 *df*,  $p < .007$ ), RMSEA of 0.037 [0.011, 0.059], CFI of 0.997,

and SRMR of 0.016 (see Table 1). The correlations between the variables were as follows: (a) 0.426 between Public CRE and Private CRE, (b) 0.534 between Membership CRE and Private CRE, (c) 0.267 between Membership CRE and Public CRE, (d) 0.669 between Identity Saliency CRE and Private CRE, (e) 0.328 between Identity Saliency CRE and Public CRE, (f) 0.546 between Identity Saliency CRE and Membership CRE. All correlations between variables were significant ( $p < .001$ ). Alpha reliability levels for these scales were 0.940 for Private CRE, 0.818 for Public CRE, 0.901 for Membership CRE, and 0.814 for Identity Saliency CRE and all factor loadings were significant (see Table 2).

### **Discriminatory Campus Climate**

The CFA for the 5-item Discriminatory Campus Climate scale was an unacceptable fit with a chi-square of 184.637 (5 *df*,  $p < .000$ ), RMSEA of 0.243 [0.214, 0.274], CFI of 0.889, and SRMR of 0.085 (see Table 3). Upon reviewing the CFA output, indices showed a possible correlation between the variables “Staff members have discriminated against people like me” and “Faculty members have discriminated against people like me”. Thus, a second CFA was conducted, allowing error between those two variables to correlate. This modification significantly improved the model fit to acceptable levels with a chi-square of 16.475 (4 *df*,  $p < .003$ ), RMSEA of 0.0472 [0.038, 0.109], CFI of 0.992, and SRMR of 0.018. The chi-square difference test was also significant at  $p < .001$ , indicating a statistically significant improvement over the original model with uncorrelated error. Table 3 lists the detailed results for this CFA. The correlated error version of the Discriminatory Campus Climate Scale was used in the final model and had an alpha reliability level of 0.842 (see Table 2)

## **Sociocultural Conversations**

The CFA for the 6-item Sociocultural Conversations scale was an unacceptable fit with a chi-square of 120.823 (9 *df*,  $p < .000$ ), RMSEA of 0.203 [0.172, 0.236], CFI of 0.873, and SRMR of 0.061 (see Table 4). Upon reviewing the CFA output, the item “Degree I engage in conversations with peers who have different political views than my own” had a low coefficient of determination. Thus, a second CFA was conducted with political conversations removed. This modification significantly improved the model fit to acceptable levels with a chi-square of 46.859 (5 *df*,  $p < .001$ ), RMSEA of 0.036 [0.026, 0.112], CFI of 0.941, and SRMR of 0.028 (see Table 4). The chi-square difference test was also significant at  $p < .001$ , indicating a statistically significant improvement over the original model. Table 4 lists the detailed results for this CFA. The five-item Sociocultural Conversations Scale was used in the final model and had an alpha reliability level of 0.870 (see Table 2).

## **Resilience**

The CFA for the ten-item Resilience scale was an acceptable fit with a chi-square of 238.453 (35 *df*,  $p < .000$ ), RMSEA of 0.078 [0.037, 0.110], CFI of 0.912, and SRMR of 0.024 (see Table 1). Alpha reliability for the scale was 0.874 (see Table 2).

## **LSE**

The CFA for the 4-item LSE scale was an acceptable fit with a chi-square of 18.380 (2 *df*,  $p < .001$ ), RMSE of 0.066 [0.022, 0.104], CFI of 0.987, and SRM of 0.016 (see Table 1). Alpha reliability for the scale was 0.879 (see Table 2).

## **9-factor, Correlated CFA Model**

The next step in developing a full, structural model was to conduct a CFA of all latent factors correlated to confirm that they were related. Thus, a 9-factor, correlated CFA was run



using the factors of Private CRE, Public CRE, Membership CRE, Identity Saliency CRE, Discriminatory Campus Climate, Leadership Experience, Sociocultural Conversations, Resilience, and LSE. This model demonstrated a good fit, with a chi-square of 948.854 (459 *df*,  $p < .000$ ), RMSEA of 0.042 [0.041, 0.053], CFI of 0.950, and SRMR of 0.043 (see Table 5).

Correlations between factors in a CFA is an important step in order to show a relationship that can be specified further in a structural model. Results showed that all but three sets of factors were significantly correlated with each other: (a) Resilience and Discriminatory Campus Climate, (b) LSE and Identity Saliency CRE, and (c) LSE and Discriminatory Campus Climate. The other factors were correlated with each other at varying levels ranging from a low of 0.078 (Resilience and Public CRE) to a high of 0.677 (Identity Saliency CRE and Private CRE) and are listed in Table 6.

Method bias was tested using a common latent factor (CLF) approach, comparing the chi-square from a model with the item loadings on the CLF to be unconstrained with the chi-square from a model with the item loadings on the CLF constrained at 0. The covariances of the CLF with the other factors were set to zero so that all the variance that is shared goes through the items rather than through the covariances. A chi-square difference test revealed that these two models are not significant different  $\Delta\chi^2(31) = 1.502$ ,  $p = .990$ ; thus, there is no significant common method bias.

### **Full, Structural Model**

After conducting CFAs to support the validity of the measures, the full, structural model was tested. The 9-factor model produced a good fit, with a chi-square of 1024.758 (472 *df*,  $p < .001$ ), RMSEA of 0.044 [0.043, 0.052], CFI of 0.943, and SRMR of 0.056 (see Table 7).

### **Testing of a Competing Model**

To confirm the structural model with Resilience acting as a mediator is the best fitting model, a competing model was also tested. The competing model had leadership experience as the mediator and Resilience as an exogenous variable. Resilience was replaced with leadership experience as the mediator because it is unclear if Resilience is fixed or can grow over time as a person matures and develops. Also, it may be that a person who has high Resilience, and high levels on the other exogenous variables, is more likely to pursue leadership positions.

The model with leadership experience as the mediator had a worse fit than the model with Resilience as the mediator. The leadership experience as mediator model had a chi-square of 1350.428 (466 *df*,  $p < .001$ ), RMSEA of 0.069 [0.051, 0.059], CFI of 0.880, and SRMR of 0.099. The model fit indicators for the leadership experiences as mediator model are poorer than the model fit indicators for the model with Resilience as a mediator. A chi-square difference test was not conducted since these are non-nested models.

### **Exogenous Variables Paths to LSE**

To test the relationship between the exogenous variable paths to LSE, Resilience was removed from the model. The 8-factor model without Resilience produced a good fit, with a chi-square of 452.117 (208 *df*,  $p < .001$ ), RMSEA of .044 [0.039, 0.051], CFI of 0.966, and SRMR of 0.058.

Results revealed that of the seven paths to LSE, five were statistically significant: (a) Membership CRE—LSE ( $\beta = 0.231$ ,  $p < .001$ ); (b) Identity Salience CRE—LSE ( $\beta = -0.159$ ,  $p < .05$ ); (c) Discriminatory Campus Climate—LSE ( $\beta = -0.103$ ,  $p < .05$ ); (d) Sociocultural Conversations—LSE ( $\beta = 0.225$ ,  $p < .001$ ); (e) Leadership Experience—LSE ( $\beta = 0.237$ ,  $p < .001$ ). See Table 8 for full results.

These results partially support Hypothesis 1 and fully support Hypothesis 2 and 3. Regarding Hypothesis 1, two of the four aspects were significantly related to LSE, and the direction of these relationships was correctly predicted such that Membership CRE had a positive relationship with LSE and Identity Salience had a negative relationship with LSE. Private CRE and Public CRE were not significantly related to LSE. This result also answers Research Question 1a, the strength of the relationship between the four aspects of CRE and LSE differ, such that Membership CRE has a marginally larger impact on LSE than Identity Salience CRE. Regarding Hypothesis 2, Discriminatory Campus Climate had a negative, significant relationship with LSE. Regarding Hypothesis 3, both Sociocultural Conversations and Leadership Experience have positive, significant relationships with LSE.

#### **Exogenous Variables Paths to LSE by Race**

To investigate Research Questions 1b, 2, and 3, the 8-factor model was disaggregated by race and paths between the exogenous variables and LSE were examined. For Native American students three of the seven paths were significant: (a) Discriminatory Campus Climate—LSE ( $\beta = -0.251, p < .01$ ); (b) Sociocultural Conversations—LSE ( $\beta = 0.299, p < .01$ ); (c) Leadership Experience—LSE ( $\beta = 0.175, p < .01$ ). For White students, two of the seven paths were significant: (a) Membership CRE—LSE ( $\beta = 0.282, p < .01$ ); (b) Leadership Experience—LSE ( $\beta = 0.240, p < .001$ ). For Asian students, three of the seven paths were significant: (a) Membership CRE—LSE ( $\beta = 0.439, p < .001$ ); (b) Identity Salience CRE—LSE ( $\beta = -0.325, p < .05$ ); (c) Leadership Experience—LSE ( $\beta = 0.327, p < .001$ ). See Table 8 for full results.

These results reveal that for Research Question 1b, regarding the four aspects of CRE, Membership CRE has a positive, significant relationship to LSE for Asian and White students, but not Native American students; and Identity Salience CRE has a negative, significant

relationship to LSE for Asian students only. None of the four CRE subscales were significantly related to LSE for Native American students. For Research Question 2, Discriminatory Campus Climate has a negative, significant relationship to LSE for Native American students only. For Research Question 3, Sociocultural Conversations has a positive, significant relationship to LSE for Native American students only; and Leadership Experience has a positive, significant relationship to LSE for students in all three racial groups.

### **Exogenous Variables Paths to Resilience**

Testing the exogenous variables paths to Resilience in Figure 1, results illustrated that four of the seven paths between the exogenous variables and Resilience were statistically significant: (a) Membership CRE—Resilience ( $\beta = 0.287, p < .01$ ); (b) Discriminatory Campus Climate—Resilience ( $\beta = -0.130, p < .05$ ); (c) Sociocultural Conversations—Resilience ( $\beta = 0.145, p < .05$ ); (d) Leadership Experience—Resilience ( $\beta = 0.171, p < .01$ ). Discriminatory Campus Climate had a negative influence on Resilience, while Membership CRE, Sociocultural Conversations, and Leadership Experience had a positive influence on Resilience. The paths between Private CRE and Resilience, Public CRE and Resilience, and Identity Salience CRE and Resilience were not significant. Path coefficients and statistical significance tests are reported in Table 9. The model with standardized coefficients is presented in Figure 2.

These results partially support hypotheses 4a and 4b and fully support hypothesis 4c. Regarding hypothesis 4a, only one of the four aspects of CRE, Membership CRE, had a positive, significant relationship with Resilience. Regarding hypothesis 4b, Discriminatory Campus Climate did have a significant relationship with Resilience, but it was a negative relationship rather than the hypothesized positive relationship. Hypothesis 4c was fully supported such that

both Sociocultural Conversations and Leadership Experience had significant, positive relationships with Resilience.

Further analyses were conducted looking at the paths from the exogenous variables to Resilience in Figure 1 disaggregated by race. For Native American students, one path was statistically significant: Discriminatory Campus Climate—Resilience ( $\beta = -0.296, p < .01$ ). For White students, two paths were statistically significant: (a) Membership CRE—Resilience ( $\beta = 0.360, p < .01$ ); (b) Leadership Experience—Resilience ( $\beta = 0.257, p < .01$ ). For Asian students, three paths were statistically significant: (a) Membership CRE—Resilience ( $\beta = 0.315, p < .05$ ); (b) Sociocultural Conversations—Resilience ( $\beta = 0.335, p < .05$ ); (c) Leadership Experience—Resilience ( $\beta = 0.323, p < .01$ ). The model disaggregated by race with standardized coefficients is presented in Figures 3, 4, and 5.

### **Endogenous Variable Paths**

The path between Resilience and LSE was positive and statistically significant. The standardized path coefficient was 0.612 representing a large effect size (see Table 9). The model with standardized coefficients is presented in Figure 2. This result fully supports hypothesis 4d.

Examining the path between Resilience and LSE by racial group, the path was significant for all three racial groups: Native American students ( $\beta = 0.547, p < .01$ ); White students ( $\beta = 0.597, p < .01$ ); Asian students ( $\beta = 0.676, p < .01$ ). The model disaggregated by race with standardized coefficients is presented in Figures 3, 4, and 5.

### **Test of Resilience as a Mediator**

Resilience as a mediator was tested by examining the direct, indirect, and total effects of the predictors on the outcome variable of LSE. Results revealed that Resilience fully mediated the relationship between Membership CRE and LSE (direct  $\beta = 0.083, p = 0.137$ ; indirect  $\beta =$

0.150,  $p < .001$ ; total  $\beta = 0.233$ ,  $p < .001$ ), and the relationship between Discriminatory Campus Climate and LSE (direct  $\beta = -0.033$ ,  $p = 0.504$ ; indirect  $\beta = -0.070$ ,  $p < .05$ ; total  $\beta = -0.103$ ,  $p = 0.064$ ). Resilience partially mediated the relationship between Sociocultural Conversations and LSE (direct  $\beta = 0.150$ ,  $p < .05$ ; indirect  $\beta = 0.075$ ,  $p < .05$ ; total  $\beta = 0.225$ ,  $p < .001$ ), and the relationship between Leadership Experience and LSE (direct  $\beta = 0.154$ ,  $p < .001$ ; indirect  $\beta = 0.083$ ,  $p < .001$ ; total  $\beta = 0.237$ ,  $p < .001$ ). See Table 10 for full results.

These results partially support hypothesis 5a and fully support hypotheses 5b and 5c. Regarding hypothesis 5a, Resilience significantly mediated the effect of only one of the four aspects of CRE, Membership CRE on LSE. Regarding hypothesis 5b, Resilience significantly mediated the relationship between Discriminatory Campus Climate and LSE. Regarding hypothesis 5c, Resilience significantly mediated the relationship between Sociocultural Conversations and LSE, as well as the relationship between Leadership Experience and LSE.

### **Testing difference in the model by race**

To test possible differences in the model by race, a multigroup structural equation modeling approach was used. To test for weak factorial invariance (Meredith, 1993) across groups, the chi-square from a model with all parameters allowed to be unequal across groups was compared to the chi-square from a model with the loadings constrained to be equal across groups. The model with all parameters freely estimated fit the data well, with a chi-square of 2588.172 (1512 *df*,  $p < .001$ ), RMSEA of 0.060 [0.046, 0.053], CFI of 0.939, and SRMR of 0.074. The weak invariance model with loadings constrained to be equal across groups had a fit that was significantly poorer,  $\Delta\chi^2(13) = 29.477$ ,  $p < .05$ . This finding suggests that the model differs across racial groups. Model fit indices by racial group can be found in Table 12. Means and

standard deviations for the three subsamples can be found in Table 11. Detailed path coefficients for the three racial groups can be found in Table 13.

To examine which loadings differed across groups, further analyses were conducted for paths that had significant effects across at least two groups. The path of Membership CRE—Resilience was statistically significant for both Asian and White students. To see if these paths were significantly different between groups, the chi-square from a model with all paths constrained, except the path between Membership CRE and Resilience, was compared to the chi-square from a model with all loadings constrained to be equal across groups. A chi-square difference test revealed that these two models are not significantly different  $\Delta\chi^2(1) = .015, p = .903$ .

The path of Leadership Experience—Resilience was significant for both White ( $\beta = 0.257, p < .01$ ) and Asian ( $\beta = 0.323, p < .01$ ) students. To see if these paths were significantly different between groups, the chi-square from a model with all paths constrained, except the path between Leadership Experience and Resilience, was compared to the chi-square from a model with all loadings constrained to be equal across groups. A chi-square difference test revealed that these two models are significantly different  $\Delta\chi^2(1) = 0.795, p < .001$ .

The path of Resilience—LSE was significant for all racial groups: (a) Native American students ( $\beta = 0.547, p < .01$ ); (b) White students ( $\beta = 0.597, p < .01$ ); (c) Asian students ( $\beta = 0.676, p < .01$ ). To see if these paths were significantly different between groups, the chi-square from a model with all paths constrained, except the path between Resilience and LSE, was compared to the chi-square from a model with all loadings constrained to be equal across groups. A chi-square difference test revealed that these two models are not significantly different  $\Delta\chi^2(2) = 1.965, p = 0.374$ .

Investigating Resilience as a mediator across the different racial groups, results for Native American students revealed that the Resilience fully mediated the relationship between Discriminatory Campus Climate and LSE (direct  $\beta = -0.095$ ,  $p = 0.250$ ; indirect  $\beta = -0.142$ ,  $p < .001$ ; total  $\beta = -0.237$ ,  $p < .001$ ). For White students, results revealed that Resilience fully mediated the relationship between Membership CRE and LSE (direct  $\beta = 0.025$ ,  $p = 0.777$ ; indirect  $\beta = 0.202$ ,  $p < .001$ ; total  $\beta = 0.227$ ,  $p < .05$ ), and between Leadership Experience and LSE (direct  $\beta = 0.102$ ,  $p = 0.121$ ; indirect  $\beta = 0.138$ ,  $p < .001$ ; total  $\beta = 0.240$ ,  $p < .001$ ). For Asian students, results revealed that Resilience partially mediated the relationship between Membership CRE and LSE (direct  $\beta = 0.307$ ,  $p < 0.05$ ; indirect  $\beta = 0.145$ ,  $p < .05$ ; total  $\beta = 0.452$ ,  $p < .001$ ), and Leadership Experience and LSE (direct  $\beta = 0.162$ ,  $p < 0.05$ ; indirect  $\beta = 0.159$ ,  $p < .01$ ; total  $\beta = 0.322$ ,  $p < .001$ ). See Table 14 for full results.

### **Testing differences in the model by gender**

To test possible differences in the model by gender, a multigroup structural equation modeling approach was used. To test for weak factorial invariance (Meredith, 1993) across male and female students, the chi-square from a model with all parameters allowed to be unequal across groups was compared to the chi-square from a model with the loadings constrained to be equal across groups. The model with all parameters freely estimated fit the data well, with a chi-square of 1739.487 (1000 *df*,  $p < .001$ ), RMSEA of 0.051 [0.047, 0.055], CFI of 0.921, and SRMR of 0.074. The weak invariance model with loadings constrained to be equal across groups had a fit that was not significantly different from the unconstrained model,  $\Delta\chi^2(8) = 7.023$ ,  $p = .534$ . This finding suggests that the models do not differ across genders.

Additional analyses were done looking at mean differences by gender. When racial groups are in the aggregate, only one of the nine factors is marginally significantly different,



Sociocultural Conversations, with female students ( $M = 4.27$ ,  $SD = 0.88$ ) reporting more Sociocultural Conversations than male students ( $M = 3.73$ ,  $SD = 1.12$ ),  $t(570) = 3.87$ ,  $p = .050$ . When disaggregated by race and gender, Private CRE, Discriminatory Campus Climate, Resilience, and LSE had the most significant differences across the six groups. See Table 15 for full results.

### **Additional analyses**

Additional analyses were conducted to test the impact of Resilience on LSE one year later, while controlling for baseline LSE. As mentioned in the methods section, the measures for this study are part of a larger, longitudinal study. All previous analyses have been looked at cross-sectionally (i.e., pulled from one semester of data). However, some participants in this study have taken the measures more than once over multiple semesters; therefore, LSE one year later can be examined while controlling for baseline LSE. Of the original 610 participants, 229 of the participants (96 Native American, 83 White, and 50 Asian) had taken these two measures a year apart. Examining the impact of Resilience (timepoint 1) on LSE one year later (timepoint 2), across all races and controlling for gender and baseline LSE (timepoint 1), Resilience had a significant, positive impact on LSE one year later ( $\beta = 0.200$ ,  $p < .001$ ). Gender did not have a significant impact on Resilience. See Table 16 for full results.

### **Discussion**

The overall structural model demonstrated a goodness of fit for the sample at the aggregate level and when disaggregated by race. The results of the path analyses and mediation analyses provided further support for Bandura's (1997) self-efficacy theoretical framework and partial support for Dugan's (2010) impact of collective racial esteem on leadership self-efficacy theoretical framework for White and Asian students, but not Native American students.

## **Leadership Self-Efficacy**

Across the racial groups, Native American students had the highest score for LSE. This score was not significantly greater than White students' score but was significantly greater than Asian students' score. While no hypothesis was made regarding the mean score of LSE across racial groups, this is reflective of previous research that finds underrepresented minority students (e.g., Black and Latinx students) report higher levels of LSE, Asian students report the lowest levels of LSE, and White students report levels of LSE between the two groups (Kodama & Dugan, 2013). This pattern of results also holds when looking at other outcome variables related to leadership, such as motivation to lead (Rosch et al., 2015).

One explanation for Native American students reporting the highest LSE scores is that while growing up, these students may have been told from their communities that leadership is a culturally shared responsibility (McLeod, 2002). Native American communities are often small, and these communities work on a wide variety of issues; thus, members may be encouraged to get an education so that they can come back to the community and act as leaders when their specialized knowledge or abilities are needed. This rotation of leadership from all members can be vital to the communities to prevent burnout and increase knowledge sharing (Neihardt, 2014).

## **Resilience**

The direct path from Resilience to LSE was the largest coefficient of any of the paths in the model. The role of Resilience as a partial mediator between Membership CRE and LSE for Asian students and as a direct mediator for White students lends partial support to previous research suggesting the importance of Resilience in dealing with leadership challenges (Heifetz & Linsky, 2004; Howard & Irving, 2013) and increasing self-efficacy (Bandura, 1997; Machida & Schaubroeck, 2011). However, Resilience was not shown to act as a direct or partial mediator

between any of the four sources of Collective Racial Esteem and LSE for Native American students.

The role of Resilience on LSE supports Bandura's (1997) sources of self-efficacy framework, particularly for physiological and emotional states. This self-efficacy source states that emotional reactions to tasks can lead to positive or negative judgments of one's ability to complete the task. Thus, individuals who identify as resilient and able to handle challenges are more likely to be confident that they can successfully lead.

When examining the path between Resilience and LSE across racial groups, this path was significant with a large effect across all three racial groups. This path was not significantly different across racial groups, but when looking at the mean scores of Resilience, Native American students had a significantly higher Resilience score than White and Asian students. This mean difference supports the notion that Native American families and communities have retained and relied on traditions that help them to be resilient in the face of continued oppression (Robbins et al., 2013). Despite invasion, boarding schools, and forced relocation, many Native Americans have remained resilient because of the core values rooted in their traditions, such as interconnectedness, relationships, respect, and bravery. Through these values, they strive for the communal well-being of all members, often putting aside individual goals. As one Native American educator wrote, our "resilience is our innate capacity for well-being" (HeavyRunner & Morris, 1997, p. 3). Even when faced with challenges and adversity, many Native Americans maintain high persistence because of their belief that it is best for the community (Weaver, 2019).

The resilience studied in this paper refers to individual-level resilience. One component of resilience that was not investigated and could play a role is community-level resilience.

Community-level resilience refers to a community's capacity to take meaningful, deliberate, and collective action to remedy the impact of a problem (Pfefferbaum et al., 2005). A resilient community can respond to crises in ways which strengthen community bonds, resources, and the community's capacity to cope. Thus, it may not be only an individual's level of resilience that impacts LSE, but also the resilience of the community which the individual lives.

Community-level resilience may be especially impactful for Native American students because of the cultural values of importance of community, giving back to community, and emphasis on group concerns over individual concerns (Grahn et al., 2001; Johnson, 1997; Williams, 2012). Researchers have identified protective factors that promote community-level resilience. These include family factors (e.g., strong family norms, family harmony) and cultural factors (e.g., strong cultural identity, attachment to the community, participation in community groups) (Kelly, 2013). As a result of 500 years of historical trauma, Native American communities often promote resilience as a part of their cultural identity. Because of their protective factors and their history of persevering through systemic oppression, it is likely that Native American communities have high levels of community-level resilience, which may positively impact LSE.

### **Exogenous variables**

*Private CRE* Private CRE, the sense of pride in one's racial group, was not significantly related to Resilience or LSE for any racial group. This finding confirms previous studies that found that Private CRE is not related to LSE for White students (Dugan et al., 2012) but is in opposition to previous studies that have found this relationship significant for minority students (Kodama & Dugan, 2019). Native American students did report a significantly higher mean score for Private CRE than White or Asian students. This finding is not surprising given the

cultural value of connection to community, but, surprisingly, this pride does not relate to students developing Resilience or LSE. Examining underrepresented students, previous research has found that a positive sense of one's racial affiliation helps manage racist and other oppressive experiences, which contributes to Resilience (Museus & Park, 2015; Sue, Bucceri, Lin, Nadal & Torino, 2007). It was expected that Private CRE would have a positive impact on LSE because it reflects a form of self-awareness, which is a central tenet of contemporary leadership theories and is associated with positive leadership outcomes (Revilla, 2004; Komives & Dugan, 2010), but as noted, this hypothesis was not supported.

**Public CRE** Much like Private CRE, Public CRE, a sense of others' opinions about one's racial group, was not significantly related to Resilience or LSE for any racial group. While this relationship has not been tested on Native American students previously, these results are inconsistent with previous studies that found Public CRE significantly related to Resilience and LSE for White and Asian students (Dugan et al., 2012; Kodama & Dugan, 2019). These results highlight that external validation of one's race may not impact Resilience or LSE. For Native American students, this finding suggests that they are not hindered by other's thoughts or opinions about them. Instead, as demonstrated by oppression and trauma, others' actions impact Native American students and help them build Resilience and self-efficacy. Thus, the distinction here is between others' actions versus thoughts in developing Resilience and self-efficacy beliefs for Native American students.

**Identity Salience CRE** The relationship between Identity Salience CRE and LSE was significant and negative when the sample was in the aggregate, but when broken down by race, the relationship only held for Asian students. There was no significant relationship between Identity Salience CRE and Resilience for the sample as a whole, or when broken down by racial

group. For Native American students, this means that having one's racial affiliation highly related to one's overall identity does not negatively impact Resilience or LSE. This result is a positive finding given that Native Americans tend to be highly connected to their communities and culture, and previous literature has shown this form of CRE to have a negative impact on Resilience and LSE for other racial groups (Dugan et al., 2012; Kodama & Dugan, 2019). Native American students can identify their race as part of their self-concept and not have this identity lead them to view others as part of an out-group. This type of view, and not being able to navigate between in-group and out-group members, has been found to impact Resilience negatively or lead others in other racial groups (Crocker & Luhtanen, 1990).

***Membership CRE*** Membership CRE was positively related to LSE for White and Asian students ( $p < .05$ ), and marginally significant for Native American students ( $p < .10$ ). For Native American students, having the belief that they are worthy and cooperative members of their racial group increases Resilience because it is likely analogous to their participation in their tribal activities. Given that Native Americans value perseverance to benefit the community, it is expected that those who are more involved would feel a greater ability to persevere in response to challenges and adversity.

***Discriminatory Campus Climate*** Examining Discriminatory Campus Climate by race, the factor was only significantly related to LSE and Resilience for Native American students. Resilience also fully mediated the relationship between Discriminatory Campus Climate and LSE for Native American students such that students who experienced high levels of Discriminatory Campus Climate experienced lower levels of LSE through lower levels of Resilience. This finding contrasts previous research that found a Discriminatory Campus Climate and Resilience to have an inverse relationship, concluding that challenges and struggles are

necessary to develop Resilience (Howards & Irving, 2013). However, it supports other research that finds that a Discriminatory Campus Climate is associated with poorer academic outcomes and lower levels of campus involvement (Fischer, 2010; Martin et al., 2017; Yi & Todd, 2021).

This discrepancy in findings may be because there can be more than one type of Discriminatory Campus Climate—general, academic, and racial campus climates (Mills, 2021). This discrepancy may also be due to a lack of understanding of the Discriminatory Campus Climate over-and-above individual-level perceptions. Most studies examining campus discrimination and outcomes only examine the individual-level, but Yi and Todd (2021) found that a campus climate with greater discrimination at the university-level can inhibit positive academic outcomes, even after controlling for individual perceptions of campus climate. Examining one public university with a large Native American student population, Ruiz (2014) found that administrators failed to celebrate a federal grant aimed at supporting Native American success and systemically failed at celebrating other Native culture-focused initiatives due to fear of disenfranchising the majority White students. Thus, this type of campus-wide discrimination displayed by university administrators can harm academic outcomes above individual-level discriminatory perceptions.

***Sociocultural Conversations*** For Native American students, Sociocultural Conversations had a positive impact on LSE, but not on Resilience. This predictor had the highest magnitude of impact on LSE for Native American students, most likely because it is considered a “high impact learning practice” and allows students to navigate conversations on topics of social issues and politics with peers who possess different values than their own (Kuh, 2008; Dugan et al., 2011). Sociocultural Conversations have also been found to positively impact engagement with social justice work and civic actions (Bownman, 2011; Ford & Malaney, 2012). This finding suggests

that Native American students may use Sociocultural Conversations to share their culture and traditions in an effort to educate and spread awareness. Navigating these conversations and answering questions on these topics may be a form of mastery self-efficacy. Thus, successfully engaging in these conversations leads to an increase in leadership self-efficacy.

***Leadership Experience*** Having previous leadership experience was significantly related to LSE for all racial groups and was significantly related to White and Asian students' Resilience, but not Native American students. It is not surprising that this was positively related to leadership self-efficacy for all racial groups because previous leadership experience is most representative of mastery experience, which Bandura (1997) considers the most salient of the four sources of self-efficacy. However, it is surprising that leadership experience was not significantly related to Resilience for Native American students. It may be that for White and Asian students, these leadership experiences help cultivate Resilience, but for Native American students, their home communities and Native traditions are what contribute most to their Resilience. As one Native American author wrote, "our cultural identity is our source of strength" (HeavyRunner & Sebastian Morris, 1997, p. 1).

## **Limitations**

While this study does offer contributions to the literature, there are limitations. First, the study design is cross-sectional, and identity development is a dynamic process. The sample was purposely skewed toward more senior students since they would have had more time to experience the four sources of self-efficacy and had the most time developing their leadership self-efficacy. However, to confirm directionality, a longitudinal study is necessary.

A second limitation is that it is not representative of all Native Americans or all Tribal Nations. As previously stated, there are currently 574 federally recognized tribes (Bureau of



Indian Affairs, 2020), each with its own values and practices. Any references to Native American culture, values, or traditions in this paper were gathered from Native American scholars and leaders but are not exhaustive or inclusive of all culture, values, and traditions.

Lastly, results are from a single university, and previous research on race and development for college students has shown that university-level predictors can have a greater impact on outcomes and behaviors than individual-level predictors (Yi & Todd, 2021). The university in this study has a large Native American population; thus, it is likely that there is more academic, social, and financial support for Native American students than at other universities, which may positively impact LSE, above what was captured in this study.

### **Future Research**

Given the negative impact of Discriminatory Campus Climate on both Resilience and LSE, future research should explore how different forms of Discriminatory Campus Climate impact these outcome measures. Recent research has found that different views of campus climate—general, academic, and racial—have unique impacts on academic Resilience in minority students (Mills, 2021). Exploring these different campus climate views may provide clarity on why some researchers have found a Discriminatory Campus Climate to have a positive relationship with Resilience, and others have found it to be negative.

Future research should also examine why, for Native American students, previous leadership experience positively impacts LSE but has no impact on Resilience. However, previous leadership experience for White and Asian students positively predicts Resilience, and Resilience mediates the relationship between previous leadership experience and LSE.

Lastly, future research should sample Native American students from colleges and universities with various percentages of Native American students and look at leadership

development longitudinally. Overall, the literature on Native American students is scarce; thus, any research to better understand the experiences of Native American students in college and beyond would be a considerable contribution.

## **Implications**

Understanding what contributes to LSE in Native American students allows university faculty and practitioners to create an environment and provide resources conducive to Native American student development and success. This understanding benefits not only the Native American students but also the communities to which they are members. One of the most significant findings to come out of this research was the impact of campus climate and how it can negatively impact LSE. This finding is noteworthy given that the campus where this study took place has a large Native American population, especially compared to other large public universities.

One recommendation is to increase awareness and education surrounding Native American culture at universities. In interviews with Native American college students, Ruiz (2014) found that most of the respondents stated that racism experienced on campus came from a place of ignorance and misunderstanding. The students hoped to have more opportunities to educate fellow students. The students interviewed further emphasized that the focal university in that study should do a better job of promoting Native American cultural events to spread awareness with non-Native American students. The students were happy that the university had academic and social groups tailored toward Native American students, but they wanted the university to highlight these groups and their events to other students. This act would be a sign from university administrators that Native American students' culture matters and be an

opportunity for non-Native American students to learn about Native American culture and traditions.

Moving forward, universities with relatively high minority populations should assess how they are supporting these populations. From Ruiz's (2014) work, the focal university may have felt that, given the large presence of Native American students on campus, the campus community would be self-sufficient in supporting these populations. In effect, rather than having vocal support from the top, those at the individual level would promote and teach non-Native students about Native American culture and traditions. However, this way of operating may be ineffective. From leadership research, we know that for organization-wide initiatives to be successful over the long term, these initiatives must have support from the top (Ford, Lauricella, Van Fossen, & Riley, 2020). Therefore, universities with relatively large minority populations should not assume that communicating the importance of diverse cultures will come from the individual, student-level. Rather, university administrators should be active and vocal in their support for these student groups. This support should not only be directed at the minority student groups but also the majority populations. Rhetoric from the administration level must speak directly to the majority populations about the importance of these diverse cultures and provide these majority populations opportunities to learn more about the various cultures on campus.

A second recommendation is to educate professors and instructors on Native American culture and traditions and possible biases. While bias and discrimination trainings are becoming more common at universities, a particular focus should be made on the historical trauma of Native Americans and education in the United States. In the classroom, education has been viewed as unidirectional, with the White members having much to offer the Native American members but having nothing to learn from them (Deloria, 1999; Yellow Bird, 2005; Wilson &

Yellow Bird, 2005). Many Native Americans have traditionally approached learning through a connection with nature, hands-on practices, and storytelling (Aragon, 2004; Pewewardy, 2002). Universities should look to how they can learn from this way of learning through conversations with Native American students, rather than trying to “fix” and change how they learn to the “right” way.

## **Conclusion**

This research sheds light on leadership development for an understudied group, Native American undergraduate students. Results echo prior research on the importance of considering the impact of race when examining leadership development. Historically, leadership development has been studied from a Eurocentric, or White perspective. This type of leadership development is motivated by success, prestige, and accumulating wealth (Deyhle & Swisher, 1997). In contrast, many Native American students are motivated to go to college and develop into leaders in order to give back to their communities, and make life better for members of their tribe (Lomawaima, 2000). Thus, Native American students may place a greater focus on the collective, rather than the individual self, which in turn promotes higher levels of collective race esteem across all four subsets in comparison to White students.

The results of this study reveal that Native American leadership development is most negatively impacted by Discriminatory Campus Climate. Drawing on Bandura’s self-efficacy literature, trying to develop in an environment where social persuasion often says that one’s way of learning and one’s desires to learn are wrong, will ultimately lead one to have lower their self-efficacy. This is what happens to Native American students when they go to college where the climate is one of White is “right” (Ruiz, 2014)

More work is still needed to better understand what practices university faculty and administrators can utilize to help develop Native American student leaders and create an environment where they can flourish. It is recommended that faculty and administrators lean on tribal leaders who can speak to what Native American students value, and ways in which they may best learn.

Table 1. CFA Fit Statistics

Test	X <sup>2</sup> (df)	AIC	BIC	RMSEA [90% CI]	CFI	TLI	SRMR
CRE	25.278 (14)	11214.024	11346.132	0.037 [0.011, 0.059]	0.997	0.993	0.016
Discriminatory Campus Climate	16.475 (4)	8328.458	8398.968	0.072 [0.038, 0.109]	0.992	0.981	0.018
Sociocultural Conversations Resilience	46.859 (5)	4299.022	4354.678	0.036 [0.026, 0.112]	0.941	0.882	0.028
	238.453 (35)	14809.367	14941.424	0.078 [0.037, 0.110]	0.912	0.887	0.024
LSE	18.380 (2)	5221.857	5274.700	0.066 [0.022, 0.104]	0.987	0.962	0.016

Table 2. Reliabilities and factor loadings for measures

	All races		Native American		White		Asian	
	$\alpha$	Factor Loading	$\alpha$	Factor Loading	$\alpha$	Factor Loading	$\alpha$	Factor Loading
<i>Private CRE</i>	0.940		0.907		0.915		0.932	
I'm glad to be a member of my racial group.		0.925		0.987		0.882		0.941
I feel good about the racial group I belong to.		0.951		0.841		0.960		0.927
<i>Public CRE</i>	0.818		0.818		0.793		0.760	
My racial group is considered good by others.		1.105		1.552		0.940		0.834
In general, others respect my race.		0.595		0.449		0.704		0.735
<i>Membership CRE</i>	0.901		0.901		0.921		0.946	
I am a worthy member of the racial group I belong to.		0.774		0.775		0.703		0.895
I am a cooperative participant in the racial group I belong to.		0.900		0.887		0.924		0.858
<i>Identity Salience CRE</i>	0.814		0.814		0.787		0.868	
The racial group I belong to is an important reflection of who I am.		0.946		0.939		0.916		0.948
Belonging to my racial group is an important part of my self-image.		0.937		0.877		0.939		0.946
<i>Discriminatory Campus Climate</i>	0.842		0.859		0.813		0.828	
I have observed discriminatory words, behaviors, or gestures directed at people like me.		0.697		0.647		0.771		0.686
I have encountered discrimination while attending this institution.		0.755		0.827		0.683		0.701
I feel there is a general atmosphere of prejudice among students.		0.704		0.791		0.514		0.783
Faculty members have discriminated against people like me.		0.678		0.677		0.687		0.608
Staff members have discriminated against people like me.		0.673		0.655		0.710		0.616
<i>Sociocultural Conversations</i>	0.870		0.860		.876		0.877	
Degree I engage in conversations with peers about different lifestyles/customs.		0.753		0.827		0.679		0.707
Degree I engage in conversations with peers who have values different than my own.		0.716		0.649		0.763		0.730
Degree I engage in conversations with peers about major social issues.		0.764		0.677		0.826		0.824

Degree I engage in conversations with peers who have different religious beliefs than my own.	0.722		0.702	0.774	0.719
Degree I engage in conversations with peers about multiculturalism.	0.827		0.851	0.792	0.863
<i>Resilience</i>	0.874	0.869		0.875	0.866
I am able to adapt when changes occur	0.648		0.704	0.671	0.528
I can deal with whatever comes my way	0.675		0.702	0.685	0.578
I try to see the humorous side of things when I am faced with problems	0.441		0.430	0.490	0.330
Having to cope with stress can make me stronger	0.653		0.601	0.688	0.647
I tend to bounce back after illness, injury, or other hardships	0.691		0.687	0.610	0.771
I believe I can achieve my goals, even if there are obstacles	0.709		0.642	0.721	0.772
Under pressure, I stay focused and think clearly	0.678		0.672	0.652	0.652
I am not easily discouraged by failure	0.653		0.677	0.654	0.573
I think of myself as a strong person when dealing with life's challenges and difficulties	0.769		0.733	0.762	0.751
I am able to handle unpleasant or painful feelings like sadness, fear, and anger	0.565		0.546	0.529	0.572
<i>LSE</i>	0.879	0.883		0.874	0.872
Leading others	0.847		0.838	0.841	0.838
Organizing group tasks to accomplish goals	0.877		0.863	0.862	0.874
Taking initiative to improve something	0.807		0.840	0.883	0.807
Working with a team on a group project	0.686		0.710	0.707	0.650

*Note: all factor loadings were significant at  $p < .001$*



Table 3. CFA of Discriminatory Campus Climate Scale

Test	$\chi^2$ (df)	$\chi^2\Delta$	AIC	BIC	RMSEA [90% CI]	CFI	TLI	SRMR
5-item Discriminatory Campus Climate	184.637 (5)		8494.620	8560.723	0.243 [0.214, 0.274]	0.889	0.778	0.085
5-item Discriminatory Campus Climate with correlated error	16.475 (4)	179.637 (1, p<.001)	8328.458	8398.968	0.072 [0.038, 0.109]	0.992	0.981	0.018

Table 4. CFA of Sociocultural Conversations Scale

Test	$X^2$ (df)	$X^2\Delta$	AIC	BIC	RMSEA [90% CI]	CFI	TLI	SRMR
6-item Sociocultural Conversations	120.823 (9)		5235.369	5302.157	0.203 [0.172, 0.236]	0.873	0.788	0.061
5-item Sociocultural Conversations	46.859 (5)	73.964 (4, p<.001)	4299.022	4354.678	0.036 [0.026, 0.112]	0.941	0.882	0.028

Table 5. Fit Statistics for 9-factor, Correlated CFA

Test	$\chi^2$ (df)	AIC	BIC	RMSEA [90% CI]	CFI	TLI	SRMR
9-factor, correlated CFA	948.854 (459)	45913.141	46508.958	0.042 [.041, 0.53]	0.950	0.942	0.043

Table 6. Correlations Between Factors in 9-factor Correlated CFA

Factors	Private CRE	Public CRE	Membership CRE	Identity Salience CRE	Discriminatory Campus Climate	Sociocultural Conversations	Leadership Experience	Resilience
Private CRE	-							
Public CRE	.390**	-						
Membership CRE	.476**	.252**	-					
Identity Salience CRE	.627**	.280**	.480**	-				
Discriminatory Campus Climate	.060	-.180**	.043	.214**	-			
Sociocultural Conversations	.140*	-.014	.145*	.115*	.229**	-		
Leadership Experience	.118**	.062	.159**	.100*	.180**	.195**	-	
Resilience	.179**	.151**	.280**	.137**	-.043	.158**	.184**	-
LSE	.163**	.115**	.251**	.066	-.020	.228**	.265**	.530**

\* $p < .05$ , \*\* $p < .01$

Table 7. Fit Statistics for Full, Structural Model

Test	$\chi^2$ (df)	AIC	BIC	RMSEA [90% CI]	CFI	TLI	SRMR
Full, Structural Model	1024.758 (472)	43289.593	43817.823	0.044 [0.043, 0.051]	0.943	0.937	0.056

Table 8. Path Coefficients for 8-factor Model

Causal Path	All Races		Native American		White		Asian	
	$\beta$	Standard Error	$\beta$	Standard Error	$\beta$	Standard Error	$\beta$	Standard Error
Private CRE—LSE	0.087	0.067	0.113	0.093	0.039	0.118	-0.002	0.132
Public CRE—LSE	0.012	0.048	0.016	0.062	0.009	0.090	0.057	0.093
Membership CRE—LSE	0.231**	0.063	0.111	0.125	0.282**	0.092	0.439**	0.130
Identity Salience CRE—LSE	-0.159*	0.068	-0.104	0.106	-0.088	0.102	-0.325*	0.129
Discriminatory Campus Climate—LSE	-0.103*	0.055	-0.251**	0.083	-0.004	0.092	0.077	0.128
Sociocultural Conversations—LSE	0.225**	0.070	0.299**	0.107	0.057	0.130	0.246	0.157
Leadership Experience—LSE	0.237**	0.041	0.175**	0.068	0.240**	0.070	0.327**	0.080

\* $p < .05$ , \*\* $p < .01$

Table 9. Path Coefficients for 9-factor, Full Structural Model

Causal Path	$\beta$	Standard Error
Private CRE—Resilience	0.056	0.067
Public CRE—Resilience	0.009	0.048
Membership CRE—Resilience	0.287**	0.062
Identity Saliency CRE—Resilience	-0.061	0.068
Discriminatory Campus Climate—Resilience	-0.130*	0.054
Sociocultural Conversations—Resilience	0.145*	0.070
Leadership Experience—Resilience	0.171**	0.031
Resilience—LSE	0.612**	0.031

\* $p < .05$ , \*\* $p < .01$

Table 10. Results for Tests of Resilience as a Mediator

Predictor	Direct Effect		Indirect Effect		Total Effect	
	$\beta$	[95% CI]	$\beta$	[95% CI]	$\beta$	[95% CI]
Private CRE	0.062	[-0.033, 0.062]	0.025	[-0.033, 0.086]	0.087	[-0.023, 0.196]
Public CRE	0.007	[-0.046, 0.056]	0.004	[-0.028, 0.003]	0.011	[-0.050, 0.067]
Membership CRE	0.083	[-0.009, 0.183]	0.150**	[0.096, 0.219]	0.233**	[0.136, 0.353]
Identity Salience CRE	-0.136*	[-0.165, -0.19]	-0.026	[-0.060, 0.024]	-0.162*	[-0.193, -0.034]
Discriminatory Campus Climate	-0.033	[-0.092, 0.039]	-0.070*	[-0.097, -0.017]	-0.103 <sup>+</sup>	[-0.158, -0.009]
Sociocultural Conversations	0.150*	[0.049, 0.150]	0.075*	[0.016, 0.075]	0.225**	[0.110, 0.225]
Leadership Experience	0.154**	[0.043, 0.100]	0.083**	[0.020, 0.057]	0.237**	[0.078, 0.143]

<sup>+</sup> $p < .10$ , \* $p < .05$ , \*\* $p < .01$



Table 11. Means, standard deviations, and coding for all variables

Variables	All races			Native American			White			Asian			Coding
	N	M	SD	N	M	SD	N	M	SD	N	M	SD	
<i>Collective racial esteem</i>													
Private CRE	603	4.197	0.920	236	4.634 <sup>a</sup>	0.633	215	3.621 <sup>b</sup>	0.967	153	4.336 <sup>c</sup>	0.794	1 = strongly disagree; 2 = somewhat disagree; 3 = neither agree nor disagree; 4 = somewhat agree; 5 = strongly agree
Public CRE	603	3.458	0.983	236	3.536 <sup>a</sup>	0.990	215	3.173 <sup>b</sup>	1.000	153	3.735 <sup>c</sup>	0.841	
Membership CRE	603	3.828	0.938	236	3.951 <sup>a</sup>	0.934	215	3.619 <sup>b</sup>	0.938	153	3.931 <sup>a</sup>	0.898	
Identity Salience CRE	603	3.491	1.243	236	3.985 <sup>a</sup>	1.015	215	2.679 <sup>b</sup>	1.135	153	3.869 <sup>a</sup>	1.124	
<i>Discriminatory campus climate</i>	606	2.322	0.987	236	2.462 <sup>a</sup>	1.063	217	2.043 <sup>b</sup>	0.891	153	2.501 <sup>a</sup>	0.910	1 = strongly disagree; 2 = somewhat disagree; 3 = neither agree nor disagree; 4 = somewhat agree; 5 = strongly agree
<i>Sociocultural Conversations</i>	606	4.129	0.982	236	4.275	0.959	217	4.038	1.00	153	4.063	0.975	1 = never; 2 = very rarely; 3 = rarely; 4 = occasionally; 5 = frequently; 6 = very frequently
<i>Leadership experiences</i>	603	2.884	1.801	234	2.863	1.952	215	2.921	1.710	154	2.864	1.696	0 = no; 1 = y
<i>Resilience</i>	603	3.873	0.683	235	4.026 <sup>a</sup>	0.644	215	3.828 <sup>b</sup>	0.682	153	3.703 <sup>b</sup>	0.697	1 = strongly disagree; 2 = somewhat disagree; 3 = neither agree nor disagree; 4 = somewhat agree; 5 = strongly agree
<i>LSE</i>	604	4.169	0.799	236	4.309 <sup>a</sup>	0.741	215	4.184 <sup>a</sup>	0.792	153	3.933 <sup>b</sup>	0.845	1 = not at all confident; 2 = somewhat unconfident; 3 = neither confident nor unconfident; 4 = somewhat confident; 5 = very confident

Table 12. Model Goodness of Fit Indices by Racial Group

Race	$\chi^2$ (df)	AIC	BIC	RMSEA [90% CI]	CFI	TLI	SRMR
All	1024.758 (472)	43289.593	43817.823	0.044 [0.043, 0.051]	0.943	0.937	0.056
Native American	838.763 (472)	16225.382	16640.021	0.058 [0.047,0.060]	0.920	0.908	0.072
White	791.320 (472)	15615.006	16019.482	0.056 [0.049, 0.063]	0.923	0.912	0.064
Asian	768.661 (472)	11062.790	11427.224	0.064 [0.041, 0.67]	0.922	0.909	0.076

Table 13. Racial Group Path Coefficients

Causal Path	Native American		White		Asian	
	$\beta$	Standard Error	$\beta$	Standard Error	$\beta$	Standard Error
Private CRE—Resilience	0.061	0.088	0.050	0.110	-0.158	0.138
Public CRE—Resilience	0.096	0.074	-0.111	0.091	0.149	0.120
Membership CRE—Resilience	0.207 <sup>+</sup>	0.123	0.360**	0.089	0.315*	0.131
Identity Salience CRE—Resilience	-0.019	0.103	-0.108	0.096	-0.090	0.131
Discriminatory Campus Climate—Resilience	-0.296**	0.082	0.052	0.086	-0.042	0.125
Sociocultural Conversations—Resilience	0.160	0.118	-0.031	0.114	0.335*	0.151
Leadership Experience—Resilience	0.000	0.068	0.257**	0.067	0.323**	0.081
Resilience—LSE	0.547**	0.054	0.597**	0.053	0.676**	0.054

<sup>+</sup> $p < .10$ , \* $p < .05$ , \*\* $p < .01$

Table 14. Results for Tests of Resilience as a Mediator by Racial Group

Predictor	Native American			White			Asian		
	Direct Effect	Indirect Effect	Total Effect	Direct Effect	Indirect Effect	Total Effect	Direct Effect	Indirect Effect	Total Effect
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
Private CRE	0.065	0.028	0.094	0.042	0.025	0.066	0.028	-0.085	-0.057
Public CRE	-0.021	0.047	0.025	0.078	-0.066	0.012	0.036	0.076	0.112
Membership CRE	0.014	0.099	0.113	0.025	0.202**	0.227*	0.307**	0.145*	0.452**
Identity Salience CRE	-0.095	-0.007	-0.102	-0.030	-0.059	-0.090	-0.304**	-0.025	-0.329**
Discriminatory Campus Climate	-0.095	-0.142**	-0.237**	-0.029	0.031	0.002	0.164	-0.064	0.130
Sociocultural Conversations	0.220*	0.078	0.297**	0.069	-0.019	0.050	0.056	0.175*	0.231
Leadership Experience	0.184**	0.774	0.174*	0.102	0.138**	0.240**	0.162*	0.159**	0.322**

\* $p < .05$ , \*\* $p < .01$

Table 15. Means by racial group and gender

Variable	Native American				White				Asian			
	Female		Male		Female		Male		Female		Male	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Private CRE	4.70 <sup>a</sup>	0.57	4.51 <sup>ab</sup>	0.68	3.42	0.99	3.89 <sup>c</sup>	0.87	4.48 <sup>b</sup>	0.62	4.10	0.98
Public CRE	3.47 <sup>a</sup>	1.00	3.66 <sup>ab</sup>	0.93	3.12 <sup>c</sup>	1.00	3.23 <sup>ac</sup>	1.00	3.77 <sup>bd</sup>	0.76	3.68 <sup>ad</sup>	0.96
Membership CRE	3.96 <sup>a</sup>	0.93	3.88 <sup>ab</sup>	0.94	3.56 <sup>cd</sup>	0.91	3.68 <sup>bce</sup>	0.97	4.06 <sup>a</sup>	0.83	3.69 <sup>ade</sup>	0.98
Identity Salience CRE	4.10 <sup>a</sup>	0.94	3.72 <sup>b</sup>	1.12	2.54 <sup>c</sup>	1.14	2.84 <sup>c</sup>	1.11	4.08 <sup>a</sup>	0.97	3.50 <sup>b</sup>	1.30
Discriminatory Campus Climate	2.62 <sup>a</sup>	0.99	2.15 <sup>bc</sup>	1.13	2.10 <sup>c</sup>	0.91	1.86 <sup>bc</sup>	0.83	2.65 <sup>a</sup>	0.89	2.20 <sup>b</sup>	0.90
Sociocultural Conversations	4.32 <sup>a</sup>	0.96	4.03 <sup>ab</sup>	0.91	4.15 <sup>ac</sup>	0.91	3.76 <sup>bcd</sup>	1.19	4.37 <sup>a</sup>	0.70	3.43 <sup>d</sup>	1.17
Leadership Experience	2.87 <sup>ac</sup>	1.98	2.46 <sup>a</sup>	1.78	2.76 <sup>abc</sup>	1.70	3.09 <sup>bcd</sup>	1.68	3.04 <sup>cde</sup>	1.65	2.52 <sup>ad</sup>	1.77
Resilience	4.00 <sup>a</sup>	0.64	4.07 <sup>a</sup>	0.66	3.74 <sup>b</sup>	0.66	3.94 <sup>a</sup>	0.70	3.69 <sup>b</sup>	0.64	3.68 <sup>b</sup>	0.79
LSE	4.28 <sup>a</sup>	0.77	4.35 <sup>a</sup>	0.72	4.15 <sup>ab</sup>	0.83	4.23 <sup>a</sup>	0.75	3.99 <sup>bc</sup>	0.80	3.82 <sup>c</sup>	0.92

*Note:* Mean differences are significant at  $p < .05$

Table 16. Testing directionality of Resilience on LSE for all racial groups

Variable	Step 1 (control variables)			Step 2		
	B	SE B	$\beta$	B	SE B	$\beta$
Gender	0.077	0.104	0.044	0.109	0.103	0.061
LSE timepoint 1	0.419	0.052	0.474**	0.333	0.059	0.377**
Resilience timepoint 1				0.200	0.070	0.193**
$r^2$		0.224			32.547**	
F for change in $r^2$		0.251			0.27**	

Dependent Variable: LSE at timepoint 2, one-year later

\*\* $p < .001$

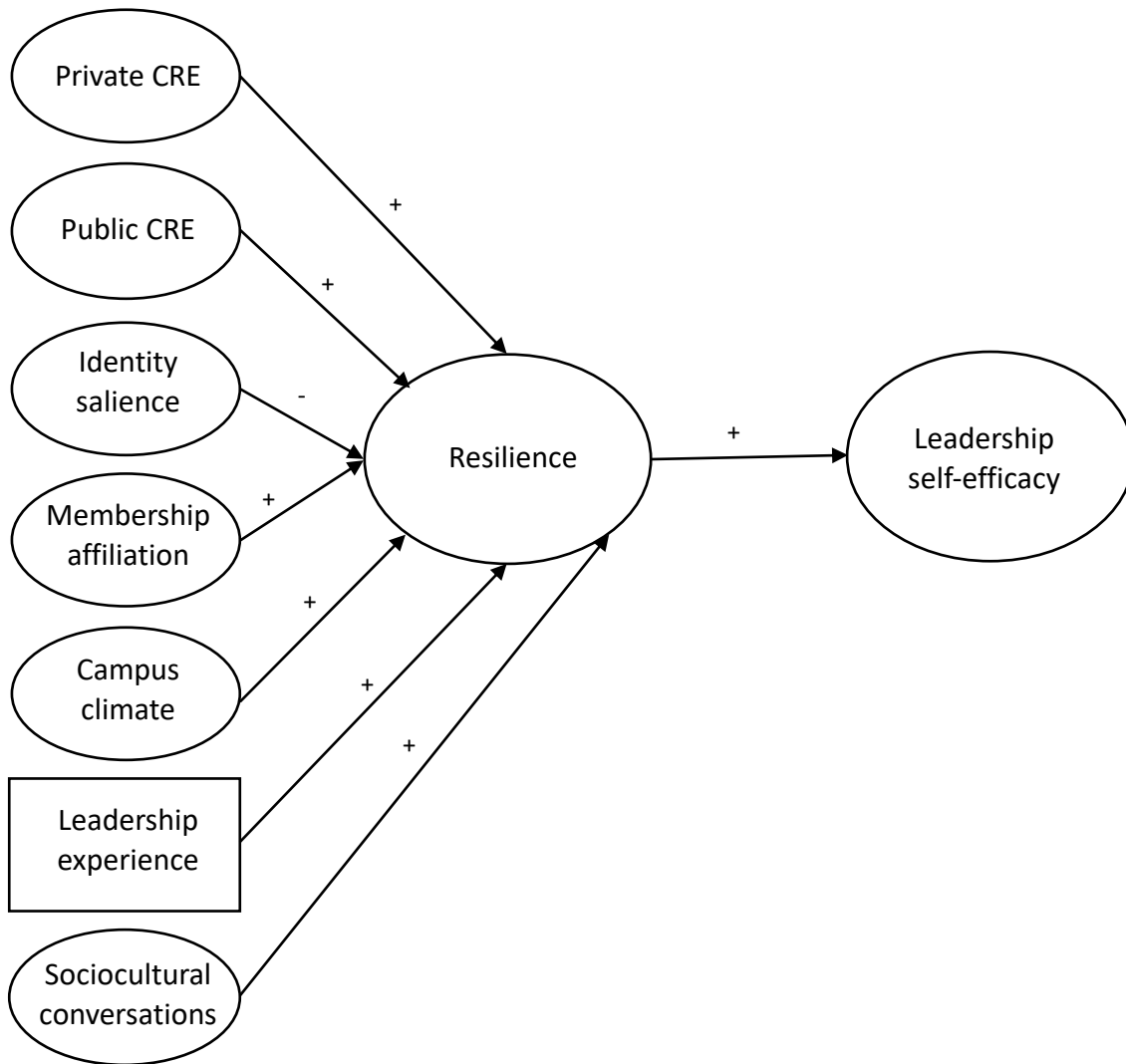


Figure 1. Proposed structural model for leadership self-efficacy

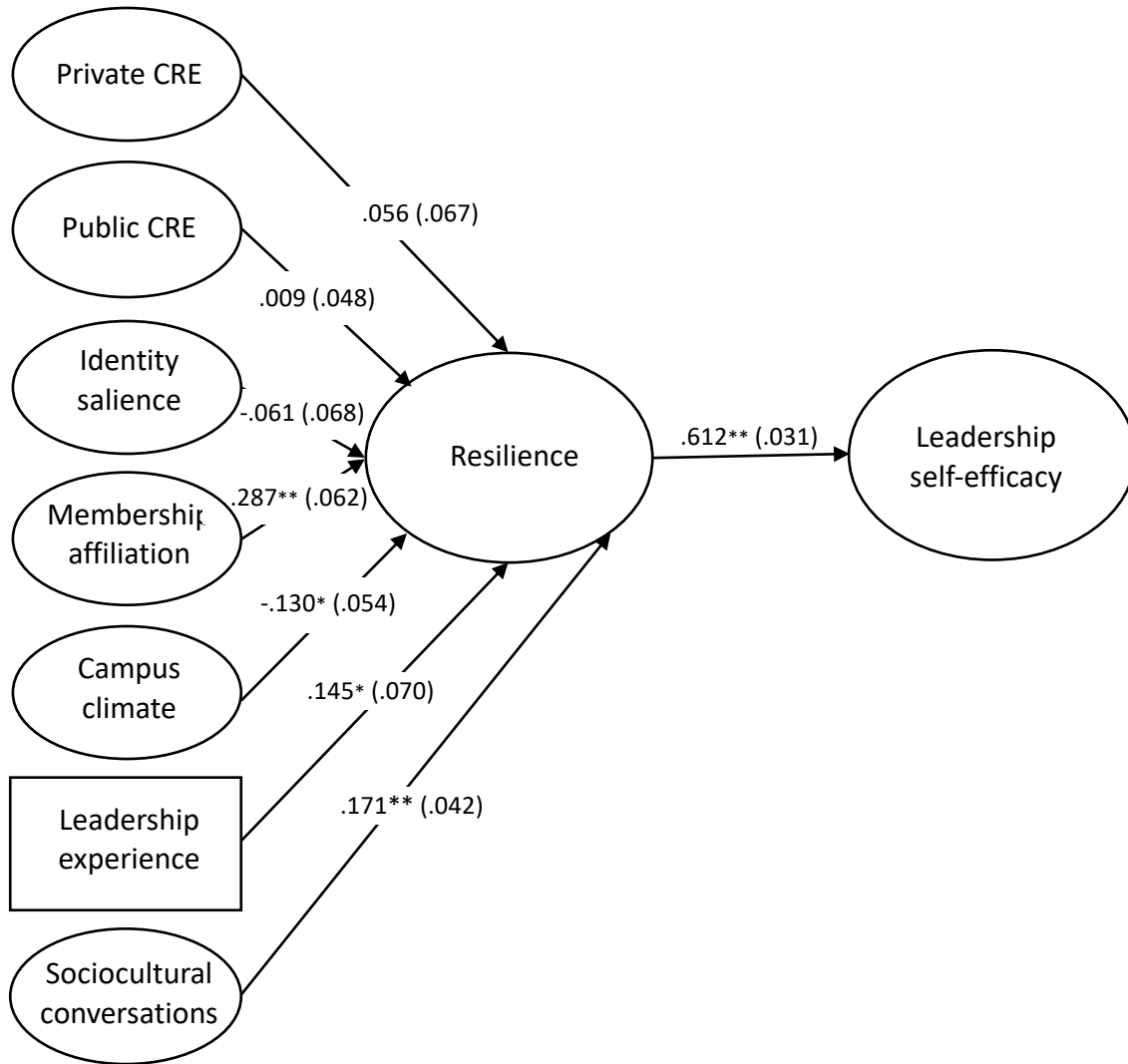


Figure 2. Structural model for leadership self-efficacy with standardized path coefficients  
 \* $p < .05$ , \*\* $p < .01$



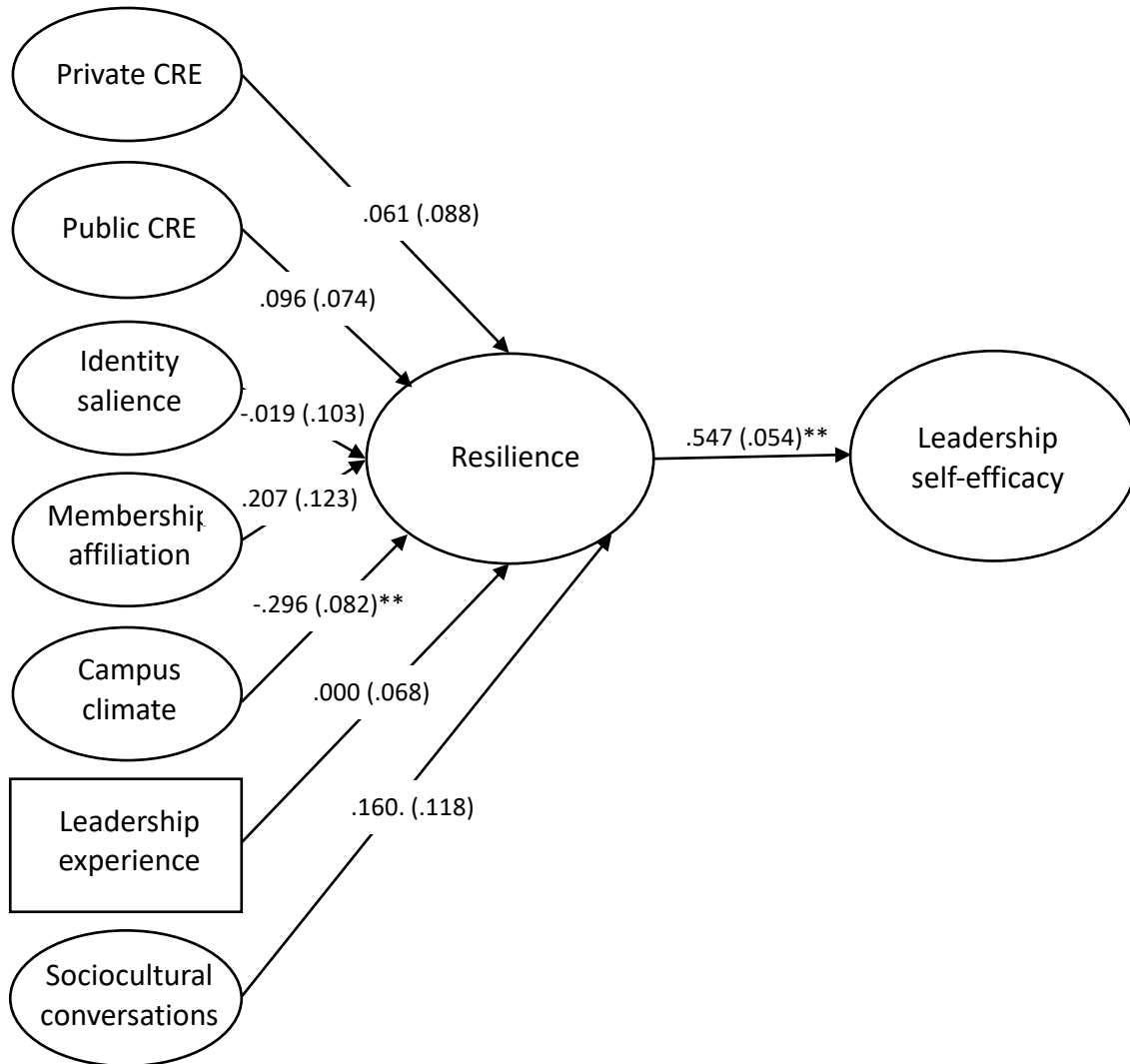


Figure 3. Structural model for leadership self-efficacy with standardized path coefficients for Native American Students  
 \* $p < .05$ , \*\* $p < .01$

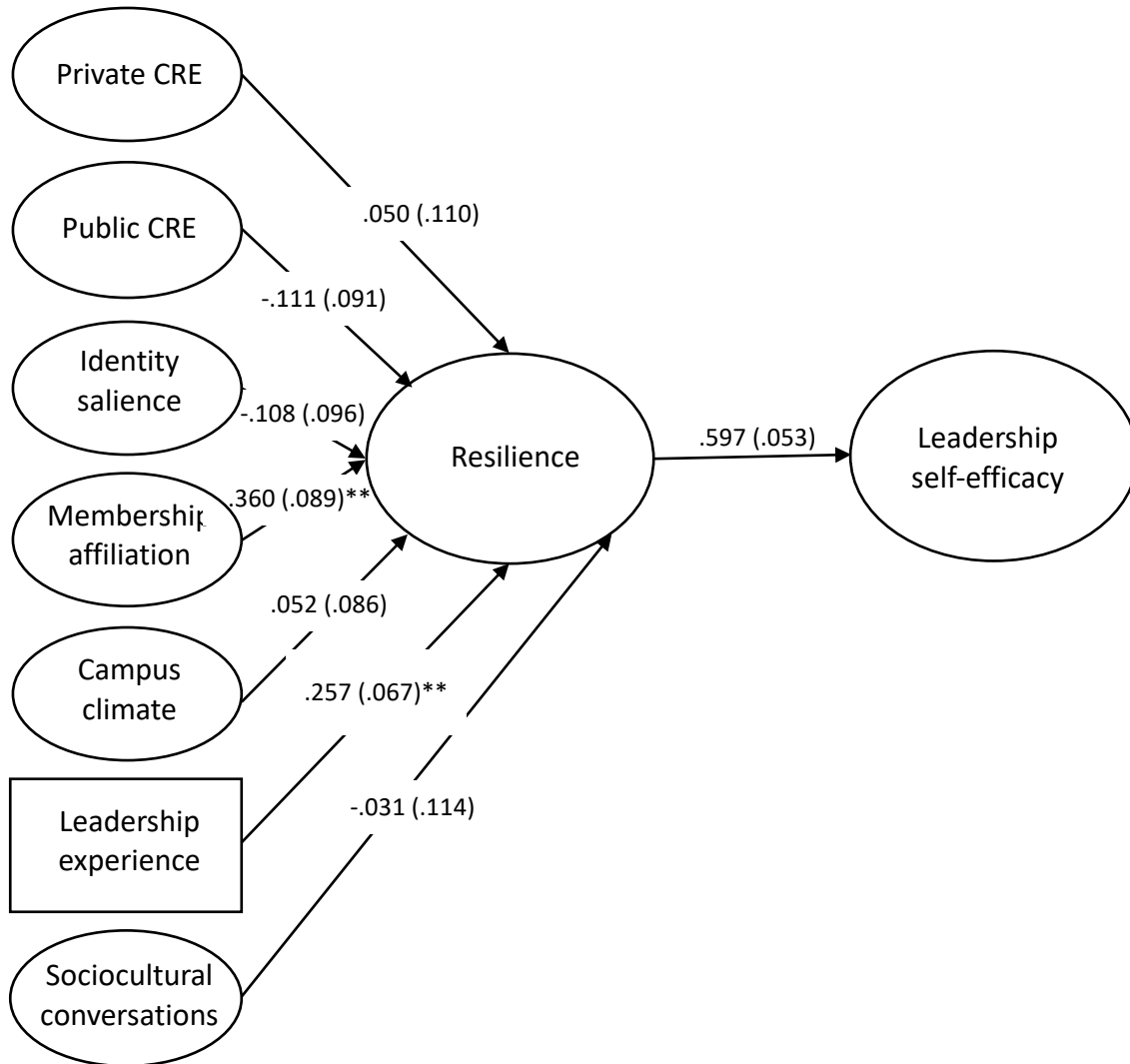


Figure 4. Structural model for leadership self-efficacy with standardized path coefficients for White Students  
 \* $p < .05$ , \*\* $p < .01$

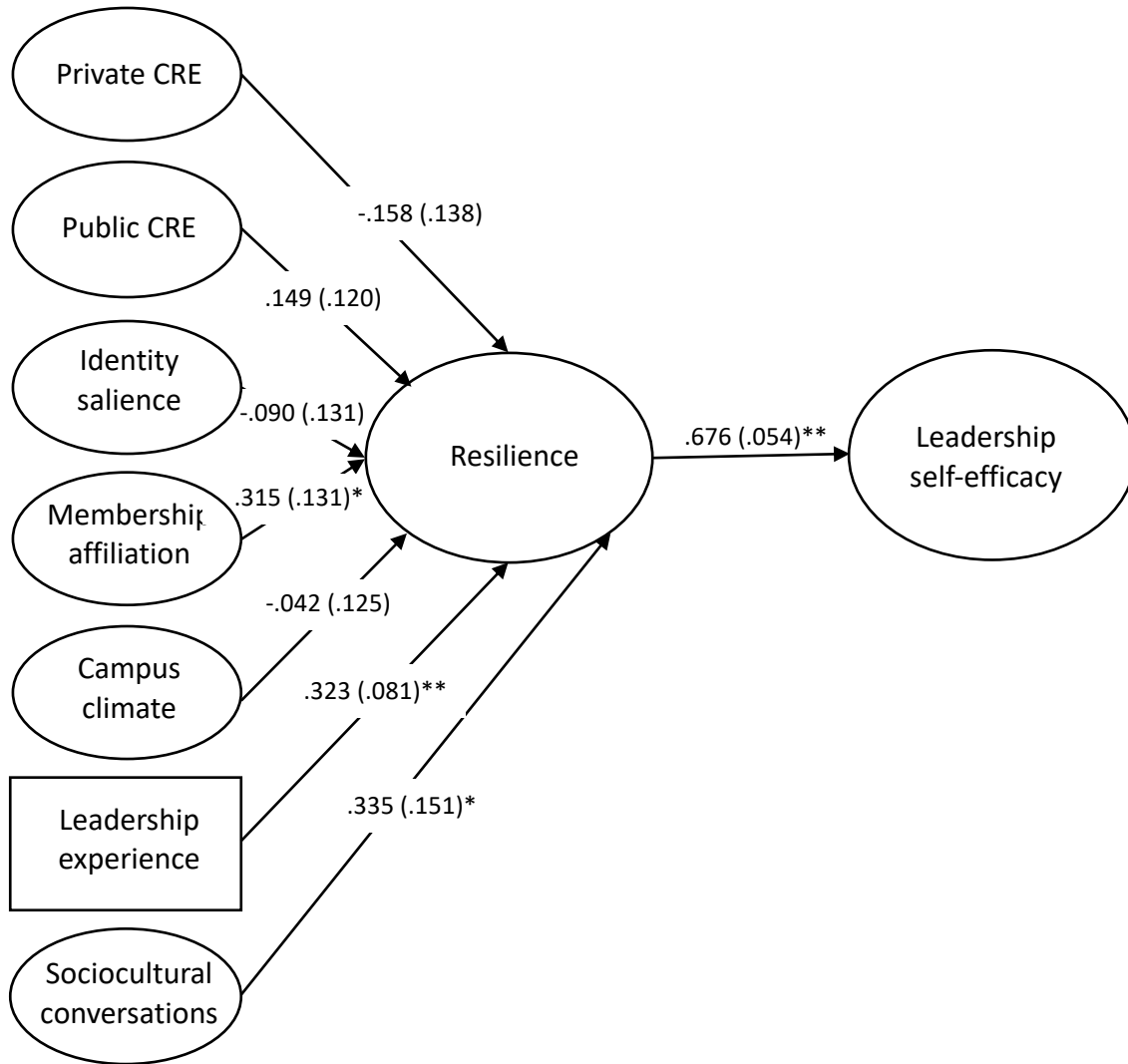


Figure 5. Structural model for leadership self-efficacy with standardized path coefficients for Asian Students

\* $p < .05$ , \*\* $p < .01$

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