Native Americans in Higher Education: An Ecological Systems Perspective

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Abstract

As a result of the U.S. government's involvement in Native American education, the current experiences of Native American college students are characterized by educational disparities. Higher education professionals are in an ideal position to meet the needs and interests of Native American students; however, most of the literature concerning this population takes a deficit approach. The present paper offers a reconceptualization of Bronfenbrenner's ecological systems model as an alternative framework for the experiences of Native American college students. In privileging historical and cultural factors, this reconceptualization demonstrates how transforming educational institutions could influence the experiences of Native American college students.

Keywords: Native Americans, ecological systems model, Urie Bronfenbrenner, higher education, college students.

In 1879, the United States government funded the first off-reservation boarding school for Native Americans – the Carlisle Indian School (Wright & Tierney, 1991). The Carlisle Indian School, like many other boarding schools, worked to assimilate Native Americans by absorbing children into an educational institution framed by Euro-American values and beliefs, while at the same time, minimizing those of Native Americans. The legacy of boarding schools can most readily be seen in the current educational disparities of Native Americans in higher education – the implications of which are devastating for Native Americans peoples. Consequently, it is critical that these disparities are addressed. By offering a reconceptualization of Bronfenbrenner’s (1979) ecological systems model, wherein the chronosystem and the macrosystem are placed at the center of the model rather than at the margin, we have identified distinct mechanisms through which higher education professionals can address the educational disparities of Native American students.

Native American Education: A Historical Perspective

When considering the current experiences of Native American college students, it is critical that we first understand the role that the U.S. government has played in Native American education. Native Americans were first introduced to Western education through the boarding school system – the intention of which was assimilation. This intention is reflected in the sentiments of boarding school pioneer, Captain Richard H. Pratt, who coined the phrase, “Kill the Indian, save the man” (Churchill, 2004). Native American children were forcibly removed from their homes to attend boarding schools, where they were stripped of their culture (Glenn, 2015). In addition to boarding schools, early colonial constructs of higher education focused on *civilizing* and *Christianizing* Native Americans. For instance, institutions such as Harvard, William and Mary, and Dartmouth operated from Christian-based educational models to convert Native Americans from savages to civilians (Wright & Tierney, 1991). Taken together, it is no surprise that there

were only 385 Native Americans enrolled in college in 1932 (Wright & Tierney, 1991). Reforms in Native American education eventually shifted control of education from the government to tribes to increase college enrollment rates. Despite this, rates remained low in the following years, with only 1% of Native Americans enrolled in college in 1966 (Wright & Tierney, 1991).

The U.S. government's involvement in tribal control through federal education policies has been inconsistent and has had an enduring impact on Native Americans. Vestiges of boarding school education can be found in contemporary university education wherein Euro-American values are emphasized at the expense of Native American ways of being.¹ Thus, Native Americans are currently the most underrepresented population in higher education, constituting 0.9% of undergraduates and 0.5% of graduate students (Ginder & Kelly-Reid, 2013). Native Americans also have the lowest college enrollment rates among 18- to 24-year olds (Ross et al., 2012) and the lowest graduation rates – with 13% of Native Americans who are twenty-five years of age and older having completed a bachelor's degree or higher (EOP, 2014). With regard to non-persistence, 43% of Native American students who started in 2003 were no longer enrolled in 2009 (Ross et al., 2012). Thus, Native American students enter and leave college early at disproportionate rates.

These educational disparities have wide ranging implications. Poor educational outcomes preserve a cycle of limited educational and economic opportunities, or in other words, poverty, from which Native American students are most likely to come (EOP, 2014; Mosholder & Goslin, 2013). Poverty has been demonstrated to have detrimental implications for physical and mental illness (Murali & Oyebode, 2004), both of which Native Americans report at alarmingly high rates (Patterson, Van Zile-Tamsen, Black, Billiot, & Tovar, 2013). Furthermore, Native Americans and their communities – whether reservation or urban – are at a disadvantage in accessing educated community members for assistance with tribal affairs (EOP, 2014).

¹ The phrase *Native American ways of being* refers to how one is oriented to oneself, the world, and life through tribal philosophies, traditions, beliefs, and customs (Brayboy, 2005; Author).

In light of the educational disparities experienced by Native American college students, the purpose of this review is to summarize the literature on Native Americans in higher education. Given that research concerning Native Americans is often approached from a *deficit* model (Dehyle & Swisher, 1997), wherein the root of the problem is situated within individuals and communities, we offer an alternative framework. We present a *reconceptualization* of Urie Bronfenbrenner's (1979) ecological systems model that emphasizes the chronosystem and the macrosystem. Such a reconceptualization provides a framework that is developmental, strength-based, and contextually focused. With the reconceptualized ecological systems model, we highlight how historical and cultural factors are inextricably connected to Native American college students' experiences, and how campus professionals can leverage such factors to transform education.

Bronfenbrenner's Ecological Systems Model

Bronfenbrenner's (1979) ecological systems model reflected his frustration with developmental psychologists' context-free research and sought to include functional systems within and between settings. Inspired by the work of Kurt Lewin (1935) and Jean Piaget (1954) on the interplay between the environment and individuals, Bronfenbrenner (1979) developed a theoretical approach to human development that came to be used by many in developmental psychology – the ecological systems model (see Figure 1).

The ecological systems model concerns the systematic study of the mutual accommodation between a developing individual and the properties of the settings in which the individual is involved (Bronfenbrenner, 1979). It also takes into consideration how relationships between individuals and various settings are influenced by the interactions among settings and the broader context. These concepts are expanded upon in the properties of the ecological systems model. The first describes the interactions that human development occurs through – referred to as *proximal processes* (Bronfenbrenner, 1994). Proximal processes are complex, enduring interactions between

an evolving individual and what is present in the environment. The second states that the effectual features of proximal processes are dependent on the evolving individual's characteristics, the environment, and the developmental outcomes in question (Bronfenbrenner, 1994).

An additional defining feature of Bronfenbrenner's model is the conceptualization of the environment from the developing individual's perspective. The ecological system includes multiple levels, which starts with the innermost level and successively progresses to the outermost level. Situated at the innermost level are individuals and their core psychological phenomena. Following is the second level, the microsystem, consisting of the individual's experiences within various settings. The third level, the mesosystem, refers to the interrelations between the settings involving an individual. Similarly, the fourth level, the exosystem comprises interrelations between settings in which the individual is not directly involved. At the outermost level is the macrosystem, which are trends seen in the previous systems. Lastly, the chronosystem serves as the third dimension of the model and refers to trends seen *over time*.

Reconceptualizing the ecological systems model. Given how these levels interact with one another to influence developmental outcomes, the ecological systems model could provide a useful approach for framing Native Americans' experiences with higher education. In its current condition, the ecological systems model has been used extensively in studies with multiracial college students to understand the development of marginalized students (Dennis, Phinney, Chuateco, 2005; Renn & Reason, 2012). However, in light of the unique historical and cultural factors affecting the current experiences of Native American peoples, it seems appropriate to reconceptualize the ecological systems model before applying it to Native American student experiences. The legacy of settler colonialism has resulted in longstanding incongruences between Native Americans and educational systems, and shapes their experiences in the present day

(Brayboy, 2005), which is often overlooked. Thus, we propose rearranging the levels of the ecological systems to privilege the chronosystem first, and macrosystem second (see Figure 2).

Doing so accomplishes several goals. By beginning with the chronosystem, we lay the foundation in which the subsequent levels of the ecological system can and should be understood, that any consideration of the present day experiences of Native Americans must be grounded in the past. Second, moving the macrosystem to the inside of the ecological systems model places culture at the center of development, which other scholars have advocated (Juang, Syed, Cookston, Wang, & Kim, 2012). This move emphasizes Native American ways of being, rather than minimize them, which is typical of most Western frameworks in which Native Americans are placed (Brayboy, 2005; Castagno & Lee, 2007). Third, in placing the chronosystem and the macrosystem at the core of the model, we argue that history and culture are inextricably connected to the remaining levels, making it impossible to ignore the role they play in the educational development of Native Americans (Juang et al., 2012). Our reconceptualized ecological systems model provides a new framework for professionals to understand the experiences of Native American college students.

Understanding Native Americans' Experiences with Higher Education Through an Ecological Systems Framework

Given that the ecological systems model was intended to capture the experiences of developing individuals within various environments, the present review is organized by each level of the model, beginning with the chronosystem first and the macrosystem second, highlighting specific issues and recommendations relevant to those systems.

Chronosystems

The chronosystem was added to the ecological systems model well after the original model to acknowledge the critical role of time for development (Bronfenbrenner, 1994). Time within the chronosystem consists of stability and change at two levels: a) individual ontogenetic change,

corresponding to how individual lives change over the life course and b) historical phylogenetic change, parallel to historical and cohort shifts across generations. This definition moves beyond conceptualizing time as equivalent with chronological age to extend the model into a third dimension – meaning it cuts across the other systems. In terms of applying the chronosystem to the experiences of Native Americans, it is imperative to begin with historical trauma and loss.

Historical losses. Despite the connection between colonization and the present day experiences of Native American college students, it has received limited attention from researchers. Some research has explored the impact that historical trauma has on Native American students (Tucker et al., 2015), with findings that suggest that historical loss thinking (i.e., having thoughts about historical losses) is associated with symptoms of depression. Furthermore, ethnic identity, associating with Native American peers, and perceived discrimination were associated with symptoms of depression through historical loss thinking. Seemingly, then, the historical trauma wrought by colonialism influences Native American college students by way of their mental health.

Though there has been limited research on historical trauma within Native American college students, it is a topic that deserves further consideration. Indeed, the historical trauma experienced by Native American peoples transcends generations. It is possible that active participation in the very systems that have historically been used to assimilate Native Americans (i.e., educational institutions) triggers thoughts of historical losses. As such, historical loss thinking may not only contribute to depression symptoms, but it may make it difficult for students to develop a sense of self that fits into the same educational system that has oppressed them.

The literature on self-continuity has stressed how history can influence Native American peoples' sense of self (Chandler & Lalonde, 1998). Self-continuity refers to the ability to form a self-conception that extends *backwards* into the past and *forward* into the future. The ability to connect past selves with future selves to form a coherent sense of self can be difficult when an

individual's culture has been oppressed because culture is foundational to developing a sense of self (Chandler & Lalonde, 1998). This can be especially challenging for Native Americans in light of settler colonialism. In addition to meeting typical developmental milestones, Native Americans are expected to form a sense of self based on ways of being that have largely been relegated to the past, dismantled, or oppressed (Chandler & Lalonde, 1998). The inability to construct a sense of self can restrict one's future orientation, especially for Native Americans pursuing higher education. Colleges and universities often promote the Euro-American values, while de-emphasizing Native American ways of being, thus, creating incongruities between Native Americans and systems of education (Brayboy, 2005). It may be difficult for Native American students to construct a sense of self that persists in the very educational systems that have oppressed them, and possibly restrict future orientation.

Given these associations, campus professionals can change *how* institutions address the historical realities experienced by Native Americans – not only as a means of acknowledging the role that institutions play in ongoing colonization, but also to transform institutions into places more congruent with Native American ways of being. To this end, it is crucial that higher education professionals dismantle features of institutions that dishonor the collective memory of Native American students. For example, the Biology department at Amherst College once displayed posters of Jeffrey Amherst, pioneer in biological warfare, presenting Native Americans with blankets – a reference to Amherst's use of smallpox to gain military advantage against Native Americans in Pontiac's war (Landry, 2012). Similarly correcting inaccurate histories (e.g., a college or university recognizing Columbus Day), negative stereotypes (e.g., Native American mascots), and the degradation of Native American culture (e.g., Cal Poly's Phi Sigma Kappa's "Colonial Bros and Nava-Hos" party; Hickey, 2013) will help dismantle institutional racism. While these are obvious affronts to Native Americans within the college or university setting, these

common occurrences result from overlooking critical influential factors in the chronosystem.

Privileging the chronosystem can offer Native American college students a corrective experience with institutions of higher education. Rather than overlooking, understating, or denying the historical realities and contemporary experiences of Native Americans, professionals within higher education can validate the individual and collective experiences of Native American students (Tachine, Cabrera, & Yellow Bird, 2017). This would be empowering and affirming for Native American students, and provide students with the social and intellectual space to develop a sense of belonging within educational institutions (Tachine, Cabrera, & Yellow Bird, 2017). We contend that this is a cultural strengths-based approach to historical factors, as it would be largely invalidating to *not* acknowledge the influence of history. In moving forward in the review, we will more effectively connect historical factors to the subsequent levels in the following sections.

Macrosystems

Macrosystems are defined as consistencies of the micro-, meso-, and exosystem that exist within a given subculture or culture, with an emphasis on lifestyles, beliefs, ideologies, customs, and opportunity structures (Bronfenbrenner, 1979). Typically, the macrosystem represents the outermost level of the ecological systems model and is often overlooked or discussed separately from the other systems. In our reconceptualization, the macrosystem serves as the second level of the ecological systems model to more effectively connect culture to the other systems. The discussion on macrosystems largely focuses on how culture influences the experiences of Native American college students, including culture in general and the culture of the college environment.

Culture. Research concerning the interplay between culture and the experiences of Native American students has examined how possessing cultural values and traditions affects students – limiting the scope of inquiry to the individual and promoting a deficit approach. As such, finding that Native American students who possess cultural values and traditions have trouble transitioning

to college may suggest that they are not as likely to succeed, situating the problem within the individual (Huffman, 2008). This attributes the likelihood of succeeding or not succeeding in college to whether or not students' possess cultural values and traditions.

When researchers expand the scope of inquiry to include the maintenance of cultural values and traditions, the interaction between culture and context is clear. For instance, Native American college students who are able to sustain their cultural values and traditions at college can more readily adapt to college and academically persist (Akee, & Yazzie-Mintz, 2011). Taking a cultural strength-based approach suggests that Native American student success depends on contextual factors rather than individual factors. Does the college environment permit Native American students to maintain their cultural beliefs and traditions (Reynolds et al., 2012)?

Though it is critical for Native American students to maintain cultural connections, it is unclear how students do so. Findings have suggested that Native American students who have a strong ethnic identity fare well at college when they also have a bicultural identity, which enables them to successfully navigate the culture of the college environment (Bingham, Jackson, Adolpho, & Alexitch, 2014). Again, these findings place the onus on the student to be oriented to both their culture and that of the college to be successful. Adopting this perspective is setting up Native American students for failure, as it may be difficult to construct a sense of self that connects Native American ways of being with an oppressive educational system (Chandler & Lalonde, 1998). Rather than placing the onus on students to assume a bicultural orientation, it must be the responsibility of institutions to accommodate Native American ways of being. Studies that adopt a cultural strengths-based approach have found that Native American students are most successful when universities enable them to integrate their ways of being with their college experiences (Guillory, 2009). Transforming the college environment to allow for this integration will also transform the relationship between Native American students and educational institutions.

College environment. Given the influence that the college environment may have on Native American students, the features of the college environment that constitute the macrosystem must be discussed. Given the benefits of maintaining cultural connections for Native American students, institutions could facilitate these connections by increasing the number of Native American students on campus, as findings have demonstrated that universities are desirable when they have a large Native American student population, are involved in Native American student recruitment, and are committed to Native American education (Lundberg, 2007).

In its current state, higher education has been found to be not only isolating, but also hostile, for Native American students. Native American students who have a strong cultural identity feel intensely alienated on campus due to experiences of racism, stereotypes, and victimization, and tend to leave college early (Author; Huffman, 2001; Pewewardy & Frey, 2004; Yang, Byers, & Fenton, 2006). Such experiences have been described as occurring at the individual- (Lin, LaCounte, Eder, 1988; Perry, 2002), and institutional-level (LaRocque, 2011; Reamey, 2009), and are related to lowered expectations for college outcomes (Thompson, 2012) and are a concern of students transferring from Tribal Colleges (Braithwaite, 1997).

These findings highlight the role that the college environment plays in marginalizing Native American students (Brayboy, 2005). By promoting and adhering solely to the values of the dominant culture, Western education frameworks create environments wherein Native American students feel out of place and unwelcomed. Until institutions of higher education undergo a structural transformation where colleges and universities are inclusive and supportive of Native American ways of being, retention initiatives are likely to be unsuccessful. As such, we continue discussing the role of culture – both of students and of institutions – in the following sections to demonstrate how such factors influence student experiences, starting with the individual.

The Individual

Typically, individuals and their core psychological phenomena (i.e., traits and characteristic adaptations; DeYoung, 2015; McAdams & Pals, 2006) are situated at the center of the levels of the ecological systems model, however, for the purposes of this review, this system will comprise the third level of the model (Bronfenbrenner, 1979). Within the literature, numerous traits and characteristic adaptations have been identified as being influential on the academic experiences of Native American college students, including *self-efficacy*, *motivation*, and *identity* (Akee, & Yazzie-Mintz, 2011; Montgomery, Miville, Winterowd, Jeffries, & Baysden, 2000; Shield, 2009).

Self-efficacy and motivation. When considering the findings for self-efficacy and motivation at the individual-level, a different conclusion is reached than when the findings are considered along with culture. For instance, studies have found that greater levels of self-efficacy and motivation are related to successful academic outcomes, while lower levels are associated with poorer academic outcomes (Gloria & Kurpurius, 2001; Thompson, Johnson-Jennings, & Nitzarim, 2013). This interpretation of data places the burden on students to have particular characteristics or traits to be successful. However, when the cultural context of universities is examined alongside these findings, a different conclusion is drawn. For example, high self-efficacy and motivation may be necessary for Native American students to navigate educational systems that are violent to their ways of being. Couching findings pertaining to the individual within the macrosystem moves researchers and campus professionals towards a cultural strengths-based approach.

Identity. It is more difficult to discuss ethnic identity separate from the chronosystem and macrosystem as it is closely connected to these systems (Markstrom, 2011). For Native Americans, ethnic identity is multifaceted and complex. At the local-level – that is, the local culture of Native Americans – three dimensions of ethnic identity have been identified, including 1) identifying with a given tribe; 2) family, ancestral, and land connections; and 3) culture and spirituality (Markstrom,

2011). Further adding to such complexities are factors at the national-level, including ongoing colonialism, the longstanding pressure to assimilate, and bicultural and multicultural modes of identity (Markstrom, 2011). Having a bicultural identity (i.e., being oriented to both tribal culture and the dominant culture) has been found to produce the most positive outcomes (LaFromboise, Coleman, & Gerton, 1993; Whitesell, Mitchell, Spicer, & the Voices of Indian Teens Project Team, 2006). This trend has been seen within Native American college students, where having a bicultural identity is associated with positive academic outcomes (Huffman, 2001).

Native American ethnic identity is not a function of the individual, but of shared cultural practices that are further complicated by the broader society (Markstrom, 2011). It is imperative, then, that higher education professionals consider the cultural context in which Native American students are operating (i.e., the college environment) and critically examine how it interacts with students' ethnic identities (Flynn, Olson, & Yellig, 2012). Does the college environment support or constrain students' identities? Does the college environment enable all Native American students, regardless of their level of ethnic identity development, to be successful? Increasing positive representations of Native Americans in academia, as *underrepresentation* in education can decrease feelings of belonging and academic performance, and constrain students' academic identities (Chandler & Lalonde, 1998; Covarrubias & Fryberg, 2015). In addition to these potential institutional changes, the subsequent sections will highlight other interventions for higher education professionals, with an emphasis on historical and cultural factors.

Microsystems

Microsystems, the fourth level of our reconceptualized model, refers to a pattern of activities, roles, and interpersonal interactions that are experienced by a person who is developing within a particular setting with specific physical and material characteristics that *invite*, *permit*, or *inhibit* interaction with the immediate environment (Bronfenbrenner, 1979). Examples of

microsystems that have been explored in Native American college students include relationships, reservations, and the type of institutions of higher education that they attend.

Family relationships. Family has been identified as an influential support system to Native American college students (Bowker, 1992; Okagaki, Helling, & Bingham, 2009). Preserving strong family ties can promote college retention, (Falk & Aitkin, 1984) while breaks in family ties may create difficulties for students. The relationship between student and family is reciprocal, in which family plays a major role in student experiences and vice versa. It is not surprising, then, that Native American students may have familial responsibilities that need to be fulfilled regardless of their college student status. Students may have family financial responsibilities or have to care for family members (Akee & Yazzie-Mintz, 2011; Jackson & Smith, 2001).

Unfortunately, students with family responsibilities are at-risk for postponing college, stopping-out of college temporarily, and dropping out of college completely (Belgarde & LoRe, 2004; Lee, Donlan, & Brown, 2010). These findings might suggest that family obligations are a hindrance to the academic experiences of Native American students and that such collectivist values may make it difficult to be successful at college – situating the problem within the culture of the student. Again, this interpretation would place the onus on Native American students to become more congruent with the values espoused by educational institutions and creates a false dilemma wherein family values are juxtaposed with higher education. Making changes to permit student success is the responsibility of the institution, and it is crucial that colleges and universities promote values that emphasize relational ways of being and enable students to maintain them.

Peer relationships. In addition to family relationships, peer relationships are significant for Native American college students and instrumental in students' navigation of higher education (Bosse, Duncan, Gapp, & Newland, 2011). This is *not* to say that Native American peers should be held accountable for assisting other Native American students in higher education in lieu of wider,

systematic changes. Positive academic experiences should not be limited to those who have access to peers with cultural capital. Rather, positive academic experiences should be afforded to all, and not only to those who have been afforded with the resources to navigate educational systems.

Instructor and staff relationships. Given that *relationality* is an essential component to the experiences of Native American college students – whether it is relationships with family or peers – it follows that educational institutions should honor relationality as a way of being in the world. Opportunities must be provided for Native American students to develop relationships with instructors and staff that are not solely focused on academic learning (Lundberg & Schreiner, 2004; Scheel, Prieto, & Biermann, 2011). Campus professionals have an ethical obligation to serve students in all respects – not just those who espouse the dominant culture. Instructors and staff must be flexible, then, and able to assess for and meet the needs of Native American students (Smith-Mohamed, 1998) to determine to what extent and in which ways students need support. This may include, social, emotional, and instrumental support, but first, hinges on the relationship.

Instructors and staff must be able to demonstrate an understanding of Native American students and their ways of being (Bosse, Duncan, Gapp, & Newland, 2011; Griese, McMahon, & Kenyon, 2016). Research has pointed to the importance of forming relationships between students and Native American instructors and staff (Flynn, Olson, & Yellig, 2012), which may decrease feelings of isolation and can contribute to a positive learning environment. For institutions that have a Native American student center, these relationships can form organically. However, for institutions that do not, mentoring programs may be necessary to connect students with Native American instructors and staff (Guillory, 2009). It is recommended that non-Native instructors and staff foster a learning environment that supports and validates students' ways of being – including their historical and contemporary experiences (Tachine, Cabrera, & Yellow Bird, 2017).

Reservations. While the vast majority of Native Americans live off reservations (U.S.

Census, 2012), it is still important to consider how students from reservations experience higher education in light of the unique context of reservations. Findings have suggested that being from a reservation can serve as both a challenge and as a major strength in higher education (Huffman, 2003). Students from reservations are more likely to want to live on a reservation after college, which is related to intentions to persist (Huffman, 2011). Being raised on a reservation may encourage future orientation to education and intentions to persist, as students see education as a way to give back to their community. Though Chandler and Lalonde (1998) suggest that oppression restricts future orientation, students may be able to leverage their reservation upbringing to imagine a future where education is used as a tool to advance community. Research with low-income, immigrant, and ethnic minority communities have frequently described a process akin to “looking up and giving back,” through which students’ future orientation is linked to their desire to connect with and benefit their home communities (Cooper, Domínguez, & Rosas, 2005).

Institutions of higher education. Institutions of higher education – that is, colleges and universities – are ripe sites for intervening in the experiences of Native American college students given the role that Native American students and campus professionals play in these contexts. In exploring Predominantly White Institutions (PWIs) and Tribal Colleges and Universities (TCUs) as microsystems, potential points of interventions will be explicated for campus professionals.

Predominantly white institutions. The literature on PWIs is dominated by discourse about the type of Native American students that are and are not successful. It is not uncommon to see findings that suggest that Native American students are not academically prepared for PWIs and that their academic performance is poor (Johnson, Okun, Benallie, & Pennak, 2010). Findings such as these suggest that Native American students do not fare well academically at PWIs due to lack of preparation. Conversely, if Native American students struggle academically, it may be due to an environment incompatible with Native American ways of being, as opposed to being unprepared.

Though the same data, they are interpreted from a cultural strengths-based perspective.

Tribal colleges. Native American students at TCUs, which are controlled and operated by Native American tribes, have higher retention rates in comparison to Native American students at PWIs (Larrimore & McClellan, 2005). This might be explained by TCUs commitment to an education that includes both a cultural component and rigorous coursework (Braithwaite, 1997) – the combination of which fosters an environment wherein students’ cultural practices coexist, rather than conflict with education. Interweaving Native American ways of being into the educational framework at TCUs enables students’ coherent sense of self – an essential component of students’ feelings of belonging within educational institutions (Tachine et al., 2017).

Given that some TCUs are 2-year institutions, students may transfer to PWIs, however, students have voiced concerns about encountering stereotypes and racism at PWIs (Baithwaite, 1997). Unfortunately, such concerns are often realized at PWIs (Perry, 2002), and subsequently, students report being disinterested in interacting with non-Natives (Makomenaw, 2012). In other words, Native American ways of being are met with hostility at PWIs.

Up until this point in the review, the importance of making institutional changes that promote Native American ways of being has been highlighted in order to facilitate the ease with which students can cultivate a coherent sense of self. Additionally, it has been demonstrated how research findings are often open to interpretation – where adhering to a deficit based approach or a cultural strengths-based approach offer widely divergent explanations of the data. Now, in turning to mesosystems, we discuss an area of research that has been relatively unexplored—educational partnerships. Mesosystems present a unique line of inquiry for campus professionals due to the connection that Native American students have to tribal communities and higher education.

Mesosystems

Mesosystems – defined as the interrelations among multiple settings wherein a developing individual is an active participant – or as a system of microsystems – serve as the fifth level of the reconceptualized model (Bronfenbrenner, 1979). Not only do mesosystems inform practices for those who work directly with students, but they also highlight alternative methods for examining the environments that Native American college students are involved in. Mesosystems that have been explored within the literature are limited to educational partnerships.

Educational partnerships. The focus of educational partnerships is to bridge the gap between family, community, and education (Cooper et al., 2005). Gaps between these settings arise when the goals of families, communities, and school conflict to impede student development (Cooper et al., 2005). Educational partnerships can reconcile conflict and promote learning by establishing and maintaining *cultural congruities* among family, community, and school. Attending to the expertise offered by families and communities can effectively connect these microsystems to form mesosystems (Cooper et al., 2005). Of note, engaging families and communities in educational partnerships empowers participants and helps reconfigure colonial relations.

As an example, Campbell (2007) examined the relationship between the Tohono O’odham Nation and the Pima Community College School of Nursing – an educational partnership that resulted in a graduation rate of over 40%. Not only was this partnership established to address the need for health care personnel on the reservation, but it was also geared toward assisting students in completing degree requirements and obtaining employment. The success of this educational partnership stemmed from its collaborative nature, wherein the college demonstrated flexibility in addressing the needs put forth by the tribe and the families of students (Campbell, 2007).

Despite the promise of educational partnerships, mesosystems have not been given adequate attention within the Native American college student literature. Educational partnerships with Native American communities afford higher education professionals a rare intervention that

spans all of the other levels of the ecological system. Educational partnerships enable students to maintain cultural connections, while providing students with the means to advance their education and give back to their communities. These partnerships can also help alleviate stress from limited financial aid packages by providing more substantial awards, while also demonstrating institutional support for Native American students by taking their family needs into consideration – findings that were discussed in the macrosystem section and will be expanded on in the exosystem section.

Higher education professionals must engage in outreach efforts to develop relationships with surrounding Native American communities. In working with a Native American community, campus professionals at a large, public university created a program in which an elder comes to campus one day per week to meet with Native American students on cultural activities. In addition to this, the first author assessed the mental health needs of university students and then worked directly with community members to learn about local healing practices, as the first author's tribe differed from the students at the university. The first author then brought these healing practices to the university to meet the needs of Native American students. These are not simple endeavors, given that both education and research have been tools of imperialism and colonialism (Smith, 2013). Campus professionals must privilege relationality to be able to work alongside community members on programs that preserve and promote Native American epistemologies (Grande, 2015).

Exosystems

Representing the outermost level of the model, exosystems have been defined as the interrelations between one or more settings, where at least one of the settings do not involve the developing individual as an active participant (Bronfenbrenner, 1979). Developing individuals are influenced by settings in which they are not active participants, albeit, indirectly. Exosystems are especially pertinent for campus professionals as there are multiple settings within higher education that indirectly affect Native American students, including academic affairs and student services.

Academic affairs and student services. Much research regarding exosystems, especially, academic affairs and student services has focused on strategies for Native American student retention. Strategies include programming that maintains cultural connections at college, culturally-based counseling, and peer-mentoring programs (Guillory, 2009). Native American coursework and Native American student organizations also play a role in student success (Falk & Aitkin, 1984). Moreover, studies have suggested that providing more substantial financial aid to Native American students can help with retention, as it can be difficult to afford costs associated with school and to provide for their families (Kruger, 1995; Lee, Donlan, & Brown, 2010).

Implementing these types of programs would shift the values of institutions of higher education to be more aligned with Native American ways of being, as these programs place a strong emphasis on academic engagement *in conjunction* with relationality. All of these programs enable students to maintain cultural connections while pursuing an education by providing mechanisms through which students can relate their ways of being and education to one another.

Despite the promise of these retention strategies, such programs have limited availability. There are few programs that do exist, which suggests that higher education professionals are working to address the incongruities between family, community, and school; however, this programming could be strengthened by including communities and families in the process from the outset (Campbell, 2007; Cooper et al., 2005). Collaborating with Native American communities and families when developing retention strategies would mean that programs are created *for* and *by* Native Americans. An inclusive process would change the colonial dynamics characterizing the relationship between Native American students and institutions of higher education by designating Native Americans as experts of their experiences (Cooper et al., 2005).

Conclusions

How do we – as higher education professionals – acknowledge and transcend the past? In this review, emphasizing how historical and cultural factors interact with the multiple layers of context that define Native American students' ecology has elucidated the many ways in which the current educational experiences of Native American college students are an extension of the colonial dynamics that were characteristic of boarding schools. Colleges and universities are structured to encourage Euro-American values while simultaneously placing a de-emphasis on the cultural values, beliefs, and traditions of Native American students (Brayboy, 2005). When examining the literature within a cultural strengths-based framework, the findings suggest that Western educational frameworks are oppressive, and place much of the burden to be successful on Native American students. In light of Native American college students' personal experiences and collective histories of oppression through education, it may be difficult for students to develop a sense of self that includes a future where they persist in these institutions under such conditions.

To encourage academic persistence, institutions of higher education must undergo a transformation to be consistent with the cultural values, traditions, and beliefs of Native American students. While recognizing that there is a wide range of diversity that constitutes Native American peoples, campus professionals must attend to tribal differences when implementing changes. Moving forward, higher education professionals can promote a shift in educational institutions by leveraging historical and cultural factors unique to Native American students – with the greatest potential for an intervention found within the mesosystem and exosystem. Educational partnerships between universities and communities have significant transformative power in creating cultural congruities between Native Americans and institutions of higher education, and to shift the colonial dynamics characterizing this relationship. Such partnerships would empower communities while validating their historical and modern day experiences, enabling students to move beyond limitations thrust upon them by institutions structured around Euro-American ways of being. Taken

together, educational partnerships and the changes that they would engender would facilitate the ease with which Native American students envision their selves persisting within an environment that is *conducive* to their cultural values, beliefs, and traditions – rather than oppressive of them.

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Figure 1

Three-Dimensional Model of Bronfenbrenner's (1979) Ecological Systems Model with the Chronosystem Depicted as the Third Dimension

Figure 1

Three-Dimensional Conceptual Model of the Chronosystem and the Macrosystem in Relation to the Other Levels, Based Bronfenbrenner's (1979) Ecological Systems Model with the Chronosystem (and the Macrosystem) Depicted at the Center and as the Third Dimension.