

Facilitators and Barriers That Influence the Persistence of American Indians in Athletic Training Education Programs

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Context: A small body of researchers has found that recruitment and retention in athletic training programs (ATPs) is influenced by experiences of authentic learning practices, a network of support, racism, and sexism. However, no known researchers have explored the experiences of American Indian and Alaska Natives (AIANs) who have become athletic trainers (ATs). A more comprehensive understanding of facilitators and barriers that influence the persistence of AIANs in ATPs will support institutions to better understand values, concerns, and factors to address diversity, equity, and inclusion for AIAN students.

Objective: The aim of this qualitative research is to explore barriers and facilitators that influence the persistence of AIANs in ATPs.

Design: Qualitative study.

Setting: Individual video conference interviews.

Patients or Other Participants: Nine (6 women, 3 men) certified ATs who self-identify as AI.

Data Collection and Analysis: We conducted semistructured interviews ($n = 9$) with each participant. After virtual interviews, data were transcribed, analyzed, and coded to common themes and clusters, following the method of thematic analysis.

Results: Barriers that negatively affect the persistence of AIs in ATPs include (1) lack of support in the ATPs, (2) program homogeneity (lack of diversity), and (3) cultural insensitivity. Facilitators from the inductive-content analysis include (1) self-efficacy, (2) support network, (3) service, and (4) ceremony and faith.

Conclusion: Identifying the factors that influence the persistence of AIANs in ATPs enables athletic training educators and preceptors to enhance the educational experience and increase recruitment of AIAN students. These efforts may promote a representative study body reflective of the patients served.

Key Words: Indigenous, braided resiliency framework, retention, recruitment

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KEY POINTS

- A lack of support, homogeneity (lack of diversity), and cultural insensitivity can hinder the persistence of American Indians in athletic training education programs.
- Self-efficacy, support network, service, and ceremony or faith can facilitate the persistence of American Indians in athletic training education programs.
- Indigenous resilience, rooted in the innate capacity of Indigenous teachings focuses on success rather than overcoming challenges, is uniquely illustrated by the braided resiliency framework.

INTRODUCTION

Ethnically diverse athletic trainers (ATs), specifically those who self-identify as American Indian and Alaska Natives (AIANs), are dramatically underrepresented in the athletic training profession compared with members who identify as a non-Hispanic Whites (Table 1). In October 2022, 0.5% (n = 151) of the 30 088 National Athletic Trainers' Association (NATA) members holding a certified professional designation, identified as AIAN, which is significantly lower than members in other racial and ethnic groups.¹ Efforts to address diversity, equity, and inclusion (DEI) have been implemented by the NATA to attract and retain scholars from diverse backgrounds. Several efforts include, but are not limited to, the establishment of the Mentor Match Program; awarding of academic scholarships and research grants; development of the Diversity, Equity, Inclusion and Access (DEIA) Plan; and the formation of the NATA Ethnic and Diversity Advisory Committee and DEIA Council. Despite efforts to address DEI, like other health careers, the field of athletic training continues to struggle with recruitment from minority racial or ethnic backgrounds, specifically those who self-identify as AIANs.¹⁻⁵

In a 2021 editorial, researchers discussed that one of the most considerable barriers to increasing representation in the athletic training workforce is the educational system itself.² When exploring explanations for why athletic training programs (ATPs) struggle to recruit and retain marginalized populations, researchers have summarized that these efforts are impeded by experiences that do not center authentic learning experiences,^{6,7} programs that lack student support,^{3,6} and ATPs where students report experiencing racism and sexism.³ Factors that can benefit students include clinical integration, self-efficacy, and networks of support.^{3,6,7}

While literature exists on factors affecting recruitment and retention of students in ATPs, no known researchers have explored the experiences of AIAN ATs. Further understanding of the persistence of AIANs becoming certified ATs can better inform athletic training academic institutions, organizations, and associations on strategies to support AIAN students, ultimately improving graduation and certification rates. One area that requires further understanding is performance in the

Board of Certification (BOC) exam. The overall 3-year aggregate BOC pass rate for AIANs was 15.8% lower than non-Hispanic White students.² This disparity demonstrates that, when AIAN students pursue and complete an ATP experience, they still face additional challenges in becoming credentialed ATs.

Professional education programs, such as social work and psychology, have experienced similar issues with a lack of diversity, specifically for those that are AIANs.^{8,9} Literature has found lack of representation, racism, and cultural isolation as major barriers in successful recruitment and retention of AIANs in professional programs.⁹ This issue is largely rooted in historical trauma and colonization.⁸ One example is the use of residential boarding schools in which children were forcibly removed from their homeland and families to assimilate to Western society. Although colonization and assimilation occurred decades ago, the trauma has short- and long-term consequences on Indigenous Peoples' health, well-being, and behaviors.⁸ As a result, in the current study, we seek to explore experiences that influence the persistence of AIANs in ATPs, specifically experiences associated with culture.

The purpose of this qualitative research was to identify the perceived facilitators and barriers that influence the persistence of AIANs in ATPs. The following research questions guided this investigation:

- (1) What barriers impede college matriculation and attainment of the BOC credential of AIAN athletic training students?
- (2) What factors promote the successful college recruitment, retention, and attainment of the BOC credential of AIAN athletic training students?

METHODS

Framework

The methodology used in this study requires an approach that would not focus on the deficits of the participants' experiences but rather highlight their strengths to persist in an ATP. Therefore, the braided resiliency framework has been used to support data collection, analysis, and interpretation. The definition of resilience has evolved as scientific knowledge has increased across various disciplines.¹⁰⁻¹² Some academics refer to resilience as a process,¹³ while others consider resilience as a dynamic concept¹⁴ or as a trait.¹⁵ Despite various definitions, *resilience*, at a fundamental level, refers to the capacity of adaptation or to recover quickly from adversities.¹⁶

This understanding of resilience differs from Indigenous resilience. Compared with Western thinking, Indigenous resilience is based on Indigenous Peoples' "innate capacity and focuses on success rather than overcoming challenges."^{17(p121)} The braided resiliency framework uniquely models this definition by integrating, or braiding, various types of resilience: individual resilience, collective resilience, and cultural resilience.¹⁸ Elm et al considered each type of resilience in relation to mind, body, and spirit.¹⁸

Table 1. NATA “Certified Professional” Membership by Race or Ethnicity^{1,4,5}

Race or Ethnicity	November 2020 ^a (n = 32 497)	October 2021 (n = 31 971)	October 2022 (n = 30 088)
White (not of Hispanic origin)	26 811 (82.5%)	26 128 (81.7%)	24 416 (81.1%)
Black (not of Hispanic origin)	1 123 (3.5%)	1 178 (3.7%)	1 188 (3.9%)
Hispanic	1 586 (4.9%)	1 629 (5.1%)	1 593 (5.3%)
Asian or Pacific Islander	1 339 (4.1%)	1 415 (4.4%)	1 336 (4.4%)
American Indian and Alaska Native	150 (0.5%)	154 (0.5%)	151 (0.5%)
Multiethnic	633 (1.9%)	706 (2.2%)	690 (2.3%)
Other	792 (2.4%)	745 (2.3%)	694 (2.3%)
Ethnicity NA	63 (0.2%)	16 (0.1%)	20 (0.1%)

Abbreviations: NA, not applicable; NATA, National Athletic Trainers’ Association.

^a NATA has no data on members in October 2020.

Individual resilience (mind) represents internal key turning points or cognitive awakenings leading to transformative behavior change or reevaluation of self in present, past, and environmental contexts.¹⁸

Collective resilience (body) involves family and community resilience that has sustained through historically traumatic events and colonial trauma responses and is inclusive of communal access of physical and nonphysical resources.¹⁸

Cultural resilience (spirit) is thought of as Indigenous cultural norms, practices, and values that form a matrix for strength and serve as a resource. Involved are Indigenous worldview perspectives on spiritual connectedness, ancestral knowledge, and infusion of culture for wellness development and maintenance.¹⁸

The braided resiliency framework is guided by Indigenous knowledge, which is depicted as living knowledge.¹⁹ Indigenous knowledge is imbedded in stories, language, ceremony, and cultural practices—which are innate wisdoms informed by generational traditions, teachings, and practices that directly influence beliefs and behaviors. Indigenous People access cultural wisdoms of their ancestors by connecting with the environment and engaging in storytelling, where shared intergenerational values of Indigenous identity are rooted. These understandings, interpretations, and meanings are part of cultural structures that foster decision-making, specifically informing Indigenous People on ways to be persistent, resourceful, and adaptable.²⁰ Elements of this framework will be observed in the chosen method and plan for analysis in which AIAN ATs were invited to share stories and their narratives reviewed holistically to identify examples of their individual, collective, and cultural resilience within their respective ATPs.

Research Reflexivity

The lead researcher of this project is a citizen of the Navajo Nation. He holds a doctorate in Indigenous health and identifies as a public health specialist and certified athletic trainer. He has experience in developing and implementing programs, combined with providing treatment and rehabilitation of athletic injuries, in diverse communities. His research interest in policy and environmental influences on health and wellness among Indigenous populations, combined with his passion of athletic training service, inspired this research topic.

This manuscript is written from the perspective of an informer, who seeks to identify and provide information that is either benefiting or limiting users (ie, patients, Indigenous scholars, health care providers, tribes) to make attainable an actionable change. As an Indigenous scholar, the lead researcher believes in exchange of knowledge between holders and seekers to maintain and strengthen teachings, wisdoms, and practices for future generations.

The coauthor is a non-Indigenous aspiring ally in the Department of Indigenous Health at the University of North Dakota. She feels fortunate enough to teach and learn alongside doctoral candidates. She teaches qualitative methods, mixed methods, and public health program evaluation while also serving as an advisor and chair of student doctoral dissertations. Additionally, she has externally funded efforts focused on applying the lessons she teaches in the classroom. Her research and program evaluation work are centered on the promotion of health equity in North Dakota and the United States. Her research interests include health equity, community-based participatory research methods, tribal participatory research methods, oral health equity, and behavioral health equity. She approaches research and program development on health and wellness from a social-ecological lens and recognizes external influences on health and behavior to include the influence of historical racism, trauma, poverty, healthy food deserts, policy, and federal and state spending, among others. Her position, methodological knowledge, work, and life experience have influenced her approach to research. In this study, her primary role was to oversee the methodological decisions and application of the lead author.

Participants

Homogenous and voluntary response sampling was used in our study to select participants who were willing to share their experiences while in their respective ATPs. Potential participants were only included if they met the following inclusion criteria for this study:

- (1) self-identify as AIAN (proof of tribal enrollment was not required),
- (2) has obtained an active BOC credential as an AT,
- (3) employed or previously employed as a certified AT, and
- (4) member of the NATA.

Upon approval by the Institutional Review Board (IRB), an e-mail was sent to potential participants who met the inclusion

criteria via the NATA Research Survey Request—a centralized data collection service program operated by NATA to provide access to research participants (NATA members). From the NATA membership directory, NATA identified and contacted 112 members who met the inclusion criteria, inviting participation in the study.

To ensure contacted members met the inclusion criteria, interested participants were provided with a link to an electronic tool (like a survey) using Qualtrics (Qualtrics.us, Provo, UT). In this Qualtrics survey, participants indicated if they met the inclusion criteria and, if so, provided their preferred mode of contact. Subsequently, the primary investigator contacted each participant and provided a consent form (requiring signature) describing the study and data collection (interview) plan.

It is important to note that participants self-identified as American Indian (AI) or Alaska Native (AN) as opposed to Native American. Although the term Native American is broad and refers to all Indigenous Peoples of the United States, it was important for this work to allow for self-identification and for a distinction between those who identify as AI and those who identify as AN. The barriers and facilitators for those who are Native American are not monolithic, and it felt important to identify variance in lived experience. As noted in the Results, all participants identified as AI and no AN ATs engaged in this research.

Data Collection

Demographic data were generated using information collected in both the electronic tool and participants' interviews during data analysis, which contributed to the validity of the results. The electronic tool included questions associated with the inclusion criteria, gender identity, ATP graduation year, and preferred method of contact. The interview protocol consisted of 10 open-ended questions and associated probing questions to achieve optimum information and clarify certain points (Table 2). However, as part of the semistructured design of the study, the interview protocol was adaptable to allow questions to evolve throughout the study and within each interview. The interview protocol was adapted from the one designed and used by Siple et al.³ Modification of their interview guide was to ensure core and associated questions aligned with the purpose and research questions of the current study.

The administration of the semistructured interviews was conducted via video conference due to the geographical location of participants. After an individual consented to participate in the study, a 90-minute interview was scheduled. All interviews were audio recorded with participants' consent to ensure appropriate capture and interpretation of responses. Participants did not receive the interview protocol in advance to reduce any predetermined answers and ensure meaningful responses. All interviews were conducted only by the principal investigator to maintain intrarater reliability.

Each interview was audio recorded via Zoom software (version 5.17.11; zoom.us, San Jose, CA). Once the interview was completed, audio recordings were downloaded directly to the primary investigator's computer. All personally identifying information (ie, names, telephone numbers, place of employment) was removed to ensure participant anonymity. Subsequently, the

primary investigator transcribed each audio file, then sent it to participants for review and approval via e-mail. Participants were instructed to provide clarification or additional information to the de-identified transcript but instructed to not delete responses in the original transcript unless for protection of cultural practices and ceremony. Once the de-identified transcript was completed, personal information and other identifiable materials, such as audio recordings, were permanently deleted.

Data Analysis

Data analysis employed member checking and followed the general inductive process, a method consistent with previous researchers who have conducted semistructured interviews in the athletic training profession.^{21,22} This analysis method allowed the primary researcher to identify common themes from the data as they relate to the purpose of the study. Data analysis was guided by the following steps: read open-ended responses in their entirety to fully understand the data; next, scan the data multiple times to identify key phrases; then highlight and code significant phrases; and finally, put units of significant phrases in broader themes and clusters.^{21,22} Credibility of the data analysis is further explored after the Discussion, but it is important to note that the data (and concluded themes) were triangulated through member checking, review of the code book and associated themes by a collaborator and expert qualitative methodologist, and through negative case analysis. Dedoose software (version 9.0.46; SocioCultural Research Consultants) was used to identify codes and themes, which were organized against the research questions to create the qualitative findings of the study.

Institutional Review Board

This study was conducted in accordance with the Declaration of Helsinki, and all procedures involving human participants were approved by the IRB at the University of North Dakota Institutional Review Board approval (IRB 0005905) for this study was granted in April 2024.

RESULTS

Participants

Of the 112 NATA members who were identified as AIANs, 22 expressed initial interest in participating in the study. Of the 22 members, 9 (6 women, 3 men) continued beyond consent. Most of our participants were employed in secondary school settings and held bachelor's degrees in athletic training (Table 3). Participants were affiliated with 10 different tribes: Cherokee, Chickasaw, Chippewa Cree, Choctaw, Muskogee, Navajo, Turtle Mountain Band of Chippewa, Pueblo of Acoma, Pueblo of Jemez, and Pueblo of Laguna. We intended to again reach out to the remaining 13 who had initially expressed interest but who had not completed the consent form, but after transcribing and analyzing the 9 transcripts, data saturation was achieved.

Thematic Results: Barriers and Supports for Persistence in ATP

Three major themes emerged from the data analysis regarding barriers that impede the persistence of AIs in ATPs. These themes were lack of support within the ATPs, program homogeneity, and cultural insensitivity. Additionally, 4 themes

Table 2. Interview Protocol

Please tell me about your educational journey from when you first wanted to go to school for athletic training to your first job as an athletic trainer—let's start with:

- (1) When and how did you decide to go to school for athletic training?
 - (a) What helped motivate you to make this decision?
 - (b) Who or what was a barrier to this?
 - (c) How did you overcome that?
- (2) Tell me about applying and getting into an athletic training program?
 - (a) What aspects motivated you to select your athletic training program?
 - (b) Did you consider alternative programs, but did not apply? Why or why not?
- (3) Tell me about what it was like completing your degree and finishing your athletic training education program?
 - (a) Are there academic obstacles you encountered? Please tell me about those.
 - (b) How did you overcome that?
 - (c) Any individuals who helped?
 - (d) What would have helped you to avoid that obstacle? Are there supports that if they have been in place this could have been avoided?
- (4) Tell me about the process of licensing and credentialing.
 - (a) Did you feel prepared in taking the certification exam?
 - (b) What would have helped you to be more prepared in taking the exam?
- (5) When you look at this timeline, can you share any personal obstacles you encountered in this time period?
 - (a) How did you overcome that?
 - (b) What would have helped you to avoid that obstacle?
 - (c) Are there supports that if they had been in place this could have been avoided?
- (6) Tell me about any individual(s) who directly influenced your career trajectory?
 - (a) What assistance or guidance did you receive from that relationship? Can you give examples of ways in which you were helped?
 - (b) How often did you see the individual?
 - (c) How did this relationship affect your career in athletic training? What do you think would have happened if you had not had that person in your life as an athletic training student?
 - (d) How important is it for American Indian and Alaska Native students to have a mentor that self-identifies as American Indian and Alaska Native?
- (7) Please tell me about where you have worked and how you used your athletic training degree.
 - (a) Who do you serve?
 - (b) Do you serve American Indian and Alaska Native persons? Predominately non-Native persons?
 - (c) Do you work on or near a Tribal community or reservation?
 - (d) Do you feel your academic training prepared you well for your professional career? Are there supports that if they have been in place this would have better prepared you?
- (8) Very few American Indian and Alaska Native athletic trainers exist in the field. Why do you think that is the case?
 - (a) What do you think has to happen for this to change?
- (9) How does it feel to be a certified athletic trainer? What does it mean to you?
- (10) As mentioned, the purpose of these interviews is to learn from someone who is American Indian and Alaska Native and who is a certified athletic trainer. We want to learn how we can better recruit, retain, and certify athletic trainers who are American Indian and Alaska Native. Knowing this, what else would you like to share about your experience?

associated with the facilitators that strengthen AIs to become ATs surfaced from the analysis. These included self-efficacy, support network, service, and ceremony and faith. Each theme is explained below and supported with quotes from participants. Each participant is identified with a pseudonym to protect identity. Tables 4 and 5 present the codes that led to the thematic conclusions.

Research Question 1: What Barriers Impede College Matriculation and Attainment of the BOC Credential of AIAN Athletic Training Students? Lack of Support Within the ATPs. Our participants described moments of frustration associated with limited faculty and preceptor assistance when achieving academic and clinical workloads. These problems were described by the participant as due to poor instruction of materials and skills training. Aria highlighted independent learning was more conducive than asking instructors for guidance:

I learned very quickly that asking questions was kind of a waste. It wasn't a good experience. It was hard to come to them [instructors or faculty] to ask questions because they would either respond with a question and make you feel dumb or say, "Did you look in your handbook?"

Chloe reflected similarly:

... our professors, they knew it [gross anatomy] was going to be difficult, and they just kept saying, "You just got to get through it. You just got to get through it," but there was no guidance.

Harper highlighted the influence preceptors could have had on her preparation for the BOC examination, even explaining that preceptor advisement at cohort level could have been advantageous. Specifically, she shared that:

Table 3. Participants' Demographic Information

Participant Pseudonym	Gender (F = 6; M = 3)	Highest Athletic Training Degree	Current Employment Setting	Athletic Training Education Program Graduation Year
Mia	F	Bachelor's	Recreational or youth sports	2016
Harper	F	Bachelor's	Administrative	2000
Ava	F	Master's	College or university	2019
Sophia	F	Bachelor's	College or university	2014
Chloe	F	Master's	Secondary school	2020
Ariah	F	Bachelor's	Secondary school	2018
Ethan	M	Bachelor's	Secondary school	2013
Dan	M	Master's	Secondary school	2018
Jacob	M	Bachelor's	Secondary school	2007

I think it would have really helped more so for the ATs at that time to sit down with us [cohort]—not just me, but all of us—to go over what to expect on the exam [BOC] and how to better prepare for it. I don't feel like I got that help or support.

Our participants were also disappointed with faculty and preceptors in handling absences to prioritize family and ceremony. Both family and ceremony are central in AIAN cultures, as emphasized by Mia's response to the importance of the family unit. She commented:

Our family unit means everything to us [AIAN People], whether it is functioning or not. It is everything to us. Being too far from them [family], there's almost a . . . disconnect type of feeling where it is unfamiliar.

In many instances, our participants felt obligated to choose their academic duties instead of their families and ceremonial responsibilities. Jacob said;

It [passing of a relative] came at a time where I had to do a test or had to do athletic training–related stuff. I guess I had to sacrifice being with family, so I can do the profession or do my curriculum.

Ariah shared a similar experience associated with not participating in ceremony after a relative passed due to coursework. She noted:

You can have prayers said for you, songs sung for you, but again, those things [ceremony] take time. [Ceremony] takes resources. Not being able to have that time and those resources felt like it was taken away from me due to being in the program because I felt like I had no other option.

Students also spoke to inadequate financial support as well. Sophia recalled the challenges she faced as a college student to pay the cost of attendance: “[T]uition was extremely expensive and my family was not in a position to pay for school.” Ariah recalled struggling to purchase additional resources to perform clinical responsibilities:

When it came down to financial stuff, such as paying for gas to get to clinicals, maintenance on your vehicle, buying uniform type stuff because you have to be in your polo and khakis, you must buy a good rain jacket . . . your books, paying for your phone bill, paying for your Internet, all of those things really did add up.

Sophia and Jacob expressed their appreciation for family in overcoming financial challenges. Sophia reported:

I also had the blessing of my grandparents. [They] understood like this [clinical experience] was a requirement of my degree and that driving that far for the entire year was going to be a financial burden, and so they actually supported me and taking out another or larger student loan.

Table 4. Result Codes Associated With Barriers That Impede College Matriculation and Attainment of the BOC Credential

Main Theme	Definition and Codes	Example
Lack of support (within the ATPs)	Any mention of inadequate assistance, resources, or encouragement to achieve a goal, eg, social isolation, financial instability, inadequate guidance.	“. . . our professors, they knew it [gross anatomy] was going to be difficult, and they just kept saying, ‘You just got to get through it. You just got to get through it,’ but there was no guidance.”
Homogeneity (lack of diversity)	Any mention of limited representation associated with background, perspectives, or identities, eg, underrepresentation, limited perspective.	“It’s hard to imagine yourself in certain places and spaces when you don’t really know what that looks like.”
Cultural insensitivity	Any mention of actions, verbal or nonverbal, that demonstrate a lack of cultural awareness or respect, eg, cultural appropriation, insensitive language or comments, stereotyping.	“they [faculty and preceptors] assumed that I was lazy and not wanting to participate in activities, but it was more of a cultural thing.”

Abbreviations: ATPs, athletic training programs; BOC, Board of Certification.

Table 5. Result Codes Associated With Factors That Promote the Successful College Recruitment, Retention, and Attainment of the BOC Credential

Theme	Definition and Codes	Example	Dimension
Self-efficacy	Any mention of the belief to achieve a goal, either through experience, role models, or praise, ie, personal experience, observation, praise.	“... I finally felt comfortable enough to where I was like, okay, maybe I do belong here, and I should just stop thinking that I don't know what I'm doing and feel comfortable...”	Individual resilience
Support network	Any mention of individuals or resources that provide emotional, practical, or financial assistance, ie, financial, social connections, relationships, community, family.	“... he [husband] sacrificed a lot during that time too, to help me get through school.”	Collective resilience
Service	Any mention of the intent to support or benefit others, ie, providing support, helping others, give back, social responsibility.	“... I wanted to be that person to help those people [AIAN], those athletes on the reservation.”	
Ceremony and faith	Any mention of traditional, ritual, or ceremonial practices to achieve harmony and strength, ie, prayer, sage, ceremony, religion, church, sweetgrass.	“When times like that [studying for exams] would happen, I would stop and grab my cornmeal and go outside to the Earth, nonconcrete space, where there's grass and be outside just look around.”	Cultural resilience

Abbreviations: AIAN, American Indian and Alaska Natives; BOC, Board of Certification.

Jacob shared experiences of family providing money for food, goods, and supplies. He mentioned:

[M]y mom would call my aunties and be like, “Jacob needs some money.” So a few hundred dollars would come my way every now and then, or my family members would pitch in to buy a laptop for me my junior year in the program.

Many participants expressed family as their primary support in overcoming challenges while in an ATP.

Homogeneity. Homogeneity within the ATP, specifically gender and race, was a common theme discussed by our participants. The reflections of our participants suggest that DEI, when ineffective, can reduce motivation. Mia said:

It's hard to imagine yourself in certain places and spaces when you don't really know what that looks like. It's also really difficult because it leaves you wide open to be kind of made fun of and harassed in a sense, and I think that was really difficult for me.

A common desire among our female participants was to be placed in clinical settings with a female preceptor. Chloe stated:

I wanted my preceptor to be a woman because I wanted to see how she makes things work because she's different than other people... seeing that a female could do all those things helped motivate me and kept me motivated.

This motivation was largely influenced by limited exposure to women, specifically women of color, in the profession, as highlighted by Mia's clinical experiences. She reported: “I

worked with 1 female [AT] who was a woman of color, and that was in my entire program in athletic training.”

Many of our participants, regardless of gender, also expressed limited exposure to faculty or preceptors that self-identified with a marginalized racial or ethnic group as role models. Sophia recalls:

My program, we are pretty Caucasian and very limited diversity, and so I didn't really have anybody except for my grandparents that really understood and identified as [Indigenous]. So I didn't really have an experience seeing somebody kind of model that identity until my doctorate program.

The lack of diversity and cultural awareness made students feel tokenized, as highlighted by Mia: “[O]ftentimes, you are tokenized in a classroom once people find out that you're Native. That's never fun because we don't represent the masses. We don't represent every tribe.”

When asked what could be done to improve DEI, our participants suggested ATP affiliation with health care facilities (ie, clinics, hospitals) or institutions (ie, schools, tribal colleges and universities) near or on AIAN communities. Ethan shared:

[I]t would have been nice to be able to work in a tribal facility to be able to see more... they [AIANs] would go to a tribal medical facility, and so that would've been nice to be able to go visit, do a clinical rotation in a tribal facility to be able to help the community.

A focus on hiring ethnically diverse faculty because of inadequate representation of staff was also mentioned as an opportunity to address DEI. Mia stated:

Staff and faculty for sure. Like you don't need to be a certified [AT] to teach a research methods class, you know. Like there are so many things within an [ATP] that could be taught by somebody who can increase their [ATP's] representation, you know?

Diversity in the profession extends beyond just seeing oneself represented in the profession. It includes exposing a variety of cultural perspectives and practices to clinical integrations. Embracing diverse perspectives and approaches strengthens innovation, curiosity, critical thinking, and effectiveness in providing quality care to diverse populations, fostering inclusivity. Ariaah recalls the influence a preceptor instilled by incorporating cultural practices with sports medicine. She noted:

I had 1 preceptor, and he was of Asian descent, and he was kind of the only preceptor that any of us [cohort] really had that looked at the body holistically. He incorporated a lot of cultural practices into his practices, and for me, it was inspiring.

Cultural Insensitivity. The third emergent theme cultural insensitivity highlights ATPs' lack of awareness for cultural learning styles and practices of AIANs that often put our participants in difficult situations. Dan provided context regarding cultural learning styles:

I guess there's always a dichotomy on the reservation in the way you acquire and learn knowledge. It's kind of you have to earn the right to do certain things. In that sense, maybe I approached education like that to a certain extent on the clinical side of things. I observed and wanted to make sure I was doing things correctly before I ever jumped in and did something, as a learning process.

This learning process of observing from afar presented our participants as uninterested and inattentive to the coursework and skills training. Dan explained: “[T]hey [faculty and preceptors] assumed that I was lazy and not wanting to participate in activities, but it was more of a cultural thing.” Jacob reflected similarly:

I can see it from a non-Native preceptor. It's like [preceptors would state], “Well, say something. Speak up. Do something. Show me what you know,” and sometimes, that doesn't happen. So it comes off as you don't know, you're scared, or you don't take initiative, or you're not going to make it in the program kind of stuff, and so I think that kind of deters some of our people [AIANs] from doing that [athletic training] kind of thing.

Our participants identified inclusion of cultural objectives or training into the ATP curriculum as a potential recommendation to overcome cultural insensitivity. Mia shared: “I think if they [ATPs] have, like cultural objectives, like an understanding of certain aspects, I think, oftentimes, in programs, they don't touch on subjects that are really meaningful.” By integrating cultural objectives and training into the academic curriculum, students and educators recognize their own biases, and it fosters an inclusive profession where diverse cultural perspectives are valued and respected.

Research Question 2: What Factors Promote the Successful College Recruitment, Retention, and Attainment of the BOC Credential of AIAN Athletic Training Students? Self-Efficacy. Praise and personal character appear to be

pivotal factors influencing our participants' confidence in becoming ATs. Our participants noted an increase in their confidence levels as they received more praise during their clinical applications. Succeeding in clinical settings provided a sense of belonging and motivation to finish the program. Ava shared:

Eventually, things started to click during clinicals, and they [preceptors] would just say something, little things and gestures, like, “Good job on that [assignment],” just little things. I finally felt comfortable enough to where I was like, okay, maybe I do belong here, and I should just stop thinking that I don't know what I'm doing and feel comfortable enough to where I am like, yes, this is where I belong.

Chloe elaborated on how internal mindset and characteristics validated her belief to complete the program by stating: “I just had this idea set in my mind that, not only was I going to do this, I was going to excel. I was going to prove to people that, yes, it may be hard, but it's not impossible.”

Support Network. Instructor Support: As we discussed cultural practices, it was evident that faculty and preceptors familiar with AIAN culture helped our participants feel appreciated and supported throughout the program. For instance, Ava shared that engagement with a deceased person is a taboo because “it can affect us [the person] mentally or health wise.” Dan reflected similarly: “[O]ur cultural customs respect the dead and the passing. . . . The [deceased] is supposed to be in the ground and go whole.” This cultural practice created challenges for our participants enrolled in a graduate ATP that required gross anatomy. However, our participants shared how faculty and preceptors provided support and alternative options to engage in learning opportunities. Ava commented:

There was that support of her [program director] reaching out saying, “You don't have to do this [gross anatomy] because I understand there are barriers within your culture that prevent you from looking at any cadavers.” She put that out there, and so I appreciated her the very first day of class.

Participants noted that a specific reason in staying in the ATP was the autonomy preceptors provided our participants to achieve their best. Ethan stated:

[H]e really pushed me to do the best that I could, and there's a lot of times where he would just say, “Here's what we got going on. If you need it, I'm here,” and he give me [a] gentle nudge to go, whether it be writing a rehab, applying a treatment, or doing an evaluation.

This quote demonstrates the profound influence instructors, either preceptors or faculty, have on the students they educate.

Peer or Classmates Support: Our participants also noted their positive relationship with their fellow classmates, who provided support in various situations. Chloe recalls the bond she shared with her classmates, noting that those relationships extended beyond in-person interactions: “When we got to COVID, we would talk to each other about what we can do to make each other better from a distance and get each other ready for the BOC.”

Our participants found it comforting to know that other people were going through the same experiences and could relate. Ariaiah stated: “My classmates and friends encouraging me, building those relationships with them and building that support system, [understanding] that I wasn’t alone.” A recurrent statement among our participants was “support system.” This statement best demonstrates the unique relationships established in ATPs. In addition, these positive interactions and close relationships with peers helped motivate our participants to persist in ATPs. Chloe captured these ideas:

It was—we are going through these [clinical and academic work] struggles together, and we’re going to make sure that each of us gets through it, and we’re there together on the other side [credentialed ATs].

Family Support: Participants were notably influenced by family, who were described as supportive, encouraging, and helpful. Harper described how her relative alleviated stress sustained through academic work:

Our conversations weren’t even specifically tied to school. It was just being able to talk to her about things going on at home, things going on with her, and that just took my mind off everything else that I may be stressing out about before I called her.

Many of our participants spoke highly of strong, motivated women and acknowledged them as having the greatest effect on their resilience to complete ATPs, such as Dan, who stated:

My mom and my aunts. I’m a product of being raised by strong independent [Native] women, and they were successful. They showed what hard work is, and you don’t need anyone else in this life but yourself, your motivation, prayer, knowing where you come from, and your culture.

Some participants praised their spouses and attributed them as the most influential supporters in their decisions to stay in ATPs. Ariaiah, who traveled approximately 2 hours one-way weekly to be with her children and husband while in school, said:

... he [husband] sacrificed a lot during that time too, to help me get through school. He was the sole financial provider for all of us. There was 4 of us all together. So being that provider and he never complained. . . just said, “Go, go to school. Get it [school] done,” so he always supported me.

Service. Our participants identified service, in which they were motivated by the intent to support or benefit others with newly acquired skills and knowledge, as important to their retention and completion in ATPs. Ava shared:

I wanted to be that person to help out those athletes that deserve those resources that everyone else had off the reservation, and I wanted to be that person to help those people [AIANs], those athletes on the reservation.

This motivation to return home and provide service to AIAN people was triggered by personal experiences, as highlighted by Harper. She stated: “We didn’t have an [AT] at my high

school and still don’t, and I thought, eventually, I could go back to my high school and be the [AT] there.”

In discussing health care services, many participants shared the lack of accessible health care in AIAN communities. When asked why few ATs exist in AIAN communities, our participants suggested lack of exposure of the profession in AIAN communities as the primary reason. One participant explained:

Working for the Chickasaw Nation, they didn’t know what an [AT] was. They didn’t how they would employ one and put them in a right program of how to make it work and be beneficial to the program, the community, and the Nation.

This inaccessible care, combined with the passion to serve AIANs, inspired our participants to persist in their respective ATPs.

Ceremony and Faith. The theme of ceremony and faith encompasses our students’ practice of ceremonial or religious activities to persist in ATPs. Such activities occurred in various ways, such as prayer, smoking sweetgrass, lighting sage, speaking Native languages, or attending church. Jacob described how his cultural practices grounded him during difficult times:

When times like that [studying for exams] would happen, I would stop and grab my cornmeal and go outside to the Earth, nonconcrete space, where there’s grass, and be outside, just look around, just have the reconnection where I was taught that, if you are praying and have your cornmeal, breathe on it and throw it on the earth while inhaling, you breathe again, you’re completing that cycle.

Ariaiah mentioned how generational prayers or prayers performed by ancestors motivated her to continue in the ATP:

I think, as a Native, there’s a phrase of their [ancestors] prayers. You are who you are because of their [ancestors’] prayers, and that was something that I always reflected on, is the prayers that were said for me years and years and years back of breaking generational curses and generational traumas and to be where I am as far as being an educated women and educated mother. That was really, really important and motivating me.

In addition to ceremonial practices, another participant gained strength through her faith in Catholicism. She stated: “Having faith in Catholicism as well to get me through some of those rough times.” Chloe shared similar sentiments:

I’m not going to make it to the end, and so no matter how much study I had or how many things I needed to do on Sunday mornings, I was getting up, and I was getting [dressed]. I was putting makeup on, and I was going to sit in a church.

Trustworthiness of the Results

In this study, we employed several strategies to enhance confidence in the data collection process and ensure the reliability and applicability of the results. The following key criteria were addressed:

- (1) credibility,
- (2) dependability,
- (3) confirmability, and
- (4) transferability.

Credibility refers to the confidence that the identified themes accurately represent participants' experiences. A key strategy to enhance credibility was the identification of negative cases—instances that did not align with the majority findings. This approach ensured that dissenting experiences were incorporated into the analysis, results, and discussion. After the finalization of themes, the primary researcher reviewed transcripts to identify and contextualize any divergent voices.

Dependability speaks to the transparency and consistency of the research process, allowing other scholars to replicate the methods and reach similar conclusions. To support dependability, the research team maintained a detailed record of all data collection procedures, coding stages, and thematic analysis. Additionally, the lead researcher's codebook and thematic framework underwent review by a collaborative researcher with expertise in qualitative analysis.

Confirmability ensures that findings reflect participants' perspectives rather than researcher bias. To uphold neutrality, the research team explicitly stated their positionality and relied on established literature rather than personal interpretations when coding data.

Transferability determines whether findings can be applied beyond the study sample. In this study, we provide a detailed methodological narrative, allowing similar researchers to explore recruitment and retention of ATs in other historically marginalized groups. Furthermore, the findings may inform not only ATPs seeking to recruit and retain AIAN ATs but also other health professions facing similar representation challenges. The transferability of the study is further supported by data saturation and the diverse participation of AI ATs, as detailed in the Results section.

These measures collectively strengthen the credibility of the findings and their applicability to both practice and future research.

DISCUSSION

The purpose of our study was to identify the perceived facilitators and barriers that influence the persistence of AIANs to become credentialed ATs while in ATPs. Our findings showed that lack of support within the program, homogeneity among students and faculty (lack of diversity), and cultural insensitivity impeded AIs from becoming certified ATs. However, self-efficacy, support network, service, and ceremony and faith facilitated persistence or resiliency. The motivation behind this study was a combination of factors. Authors of few studies have found that recruitment and retention in ATPs is influenced by experiences of authentic learning practices, network of support, racism, and sexism.^{3,6,7} However, no known researchers have explored the experiences of AIANs becoming ATs. Also, we wanted to focus on the strengths that facilitated resiliency because, often, only the deficits are examined, particularly among AIANs. Our results suggest that several of the factors that enabled the persistence

of AIs in ATPs are supported by individual, collective, and cultural resiliency.

Finding 1: Barriers That Influence Persistence

Lack of Support. Participants in the study encountered various barriers to achieving college success and becoming BOC credentialed. Institutional support, in the management of coursework or participation in ceremony, particularly affected participants' retention in their respective programs. Financial support also limited participants' attainment of achieving professional credentialing. Although some received financial support from families to offset expenses, others lacked the funds to purchase additional necessities for academic and clinical involvement. Although many students face barriers related to the cost of education, the level of poverty is significantly higher among AIAN households than among any other racial or ethnic minority, and AIAN students frequently cite barriers to education related to financial support.⁸

In various ways, participants experienced isolation while navigating their ATPs. This sense of isolation manifested in various aspects of their journeys through programs. Other barriers include conflicts between students' academic obligations and responsibilities to their families and tribal communities, accessing higher education opportunities, and cultural isolation.^{8,9} These obstacles are largely rooted in historical federal policy aimed to eliminate AIAN culture through forced assimilation. Historically, the education system contributed to this objective by removing AIAN children from their communities to residential boarding schools with the intent to assimilate to Western society. Today, these policies continue to manifest in higher rates of poverty and low educational attainment of AIAN people.

Homogeneity. The lack of diversity and AI representation affected our participants' persistence to achieve professional credentialing. This theme explores the limited representation associated with background, perspectives, or identities, potentially leading to cultural insensitivity or gaps within ATPs. These results are consistent with the literature in which the challenges of recruitment and retention of AIANs in graduate programs were examined.^{8,9} Homogeneity also impedes the development of a more inclusive and equitable profession, which can affect the quality of care. Goforth et al suggested that increasing AIAN faculty within academic institutions can bring a variety of experiences and insights to better recruit, support, and retain AIAN students, ultimately enriching education, practice, and care with diverse perspectives and approaches.⁸

Cultural Insensitivity. Based on the experiences shared by the participants in this study, the unique cultural backgrounds and practices of AIAN students are not acknowledged or well understood. For instance, many tribes show attention by avoiding eye contact and being silent.²³ However, instructors will characterize avoiding eye contact and silence as lazy, shy, or quiet, as highlighted in our study. This aloof learning style is a form of cultural respect between the knowledge holder (ie, elders, faculty members) and knowledge seeker (ie, child, student). In the literature, in some tribes, learning often involves stages such as observation, private self-testing, and then demonstration for validation.²⁴ It is critical that instructors observe, acknowledge, and accommodate diverse learning styles while

gradually introducing new approaches as students become more familiar and comfortable.

Finding 2: Factors That Influence Persistence and Their Connection to the Braided Resiliency Framework

Individual Resilience (Mind). Self-Efficacy. The concept of self-efficacy, as explored in this paper, plays a fundamental role in shaping AIANs' beliefs about their capabilities to achieve desired outcomes while effectively navigating academics in ATPs. Although previous researchers found clinical autonomy and authentic experiential learning opportunities as being factors in self-efficacy, in this study, we identified praise and personal character as influential components in an individual's resilience (mind).⁶ Resilience in this context emphasizes achieving success rather than overcoming adversity from challenges. For many AIANs, resilience is viewed as a protective mechanism that modifies an individual's response to situations and functions at critical moments throughout life.²⁵

From a Western perspective, protective and risk factors are often examined from a linear perspective, whereas from an Indigenous framework, resilience is understood as an ongoing web of relationships, processes, and interconnectedness that spans from childhood through adulthood and into elderhood.²⁶ By incorporating this framework, self-efficacy is inherently linked to the collective resilience (body) of the community and family in the commitment to succeed beyond generational trauma rooted in colonial events.

Collective Resilience (Body). Support Network. Participants identified various relationships and connections that influenced their motivation to complete their ATPs and achieve professional credentialing. Support networks have been identified as instructors, peers, and family. The positive relationships acknowledged in the study are consistent with the literature in which the family and community influences on resilience, regardless of age and gender, have been examined.²⁷⁻²⁹ Stumblingbear-Riddle et al explored resilience among urban AI adolescents, specifically the role of cultural factors among other variables in identify protective factors that support resilience.²⁷ Although a positive association between enculturation and resilience was observed, its effect was not as strong as social support from peers and friends.²⁷ This finding can be interpreted similarly to the current study since classmates and peers in ATPs truly understood the experiences in achieving a degree in athletic training. Collective resilience (body) reflects shared and intergenerational strengths that rely on cultural continuity through common values, practices, and services.

Service. Based on the interviews, our participants indicated a desire to return home with the commitment to helping their tribal communities. This motivation was largely influenced by the need to help others and increasing alternative, accessible health care services in AIAN communities. In the literature, science, technology, engineering, and mathematics students from tribal communities are largely dedicated to pursuing higher education with the intent to supporting their tribes.³⁰ The feeling of responsibility to help others highlight distinct yet interconnected themes of service and resilience. Both concepts emphasize the importance of personal development, community well-being, and societal progress.

Cultural Resilience (Spirit). Ceremony and Faith. Several participants engaged in ceremony and religious activities to recenter and reorganize while undergoing changes. This ability to acquire strength from traditional knowledge, spiritual practices, and ancestral teachings emphasizes interconnectedness with land, ancestors, and future generations.^{31,32} For Indigenous People, a strong sense of identity is a fundamental element of resilience that is largely rooted in ceremony, storytelling, prayer, narrative, and lived experiences.³³ The sharing of narratives and engagement in ceremony is a cultural practice within many communities that supports self-awareness and collective identity while strengthening connection to family, community, environment, and spirit.³⁴ In this context, cultural resilience (spirit), like individual and collective resilience, is a unique process that braids or intertwines patterns of adjustment, adaptations, and transformations that occur across life courses and generations.

Limitations

In our work, we only focused on AIAN ATs who are certified professionals or individuals who obtained professional credentialing by the BOC, which may limit the results of our findings to those members categorized as certified retired, certified students, students, or retired. However, certified professionals was an important group to examine because members can speak to current athletic training standards to its entirety (before, during, and after ATPs) without being too far removed. This study was also limited because we only included active BOC and NATA members, meaning the voices of those whose certification lapsed or are not affiliated with the association were not captured. This was due to the feasibility of finding members who relinquished their certification being difficult. As noted in the participant inclusion section, although the study was open to ATs who identified as AIANs, only ATs who are AI participated in the study. No AT identified as AN. Finally, some participants were recruited and completed our survey but were no longer available for an interview. This was partly influenced by the delayed IRB approval process, which limited the recruitment period to 4 weeks. As a result, our demographic data include a small sample size. However, participant experiences as analyzed in the transcripts did reach saturation.

CONCLUSIONS

It is fundamental to build opportunities within AIAN populations to strengthen equity and inclusivity in advancing the education and vitality of the athletic training profession that allows for culturally appropriate scientific discovery. This can only be achieved by effectively recruiting and retaining AIAN students into ATPs. As a profession, it is imperative that we ensure students are enriched with diverse perspectives and training necessary to become entry-level health care providers upon graduation, and we must hold ATPs accountable for students reaching this threshold. Therefore, we recommend that the Commission on Accreditation of Athletic Training Education and other members of the BOC and NATA thoroughly consider the following recommendations:

- (1) Cultural relevance: Tailor education approaches to respect and integrate cultural values and practices. In partnership with other members of the BOC and NATA, the Commission on Accreditation of Athletic Training

Education should assess cultural competence or multi-cultural training models used in tribal colleges and universities to introduce more culturally responsive teaching to address Indigenous-specific content and skills.

- (2) Mentoring and support: Identify effective mentorship and support services that can better support AIAN students. This can be accomplished by creating student-faculty support systems or establishing funding resources, such as scholarships or graduate assistantships, that benefit AIAN students.
- (3) Community engagement: Build partnerships and agreements with health care facilities and academic institutions in tribal communities to strengthen practical experiences and professional networking. For health care facilities, we encourage ATPs to collaborate with tribal facilities, due to self-determination of health care under the Indian Self-Determination and Education Assistance Act, to establish clinical partnerships. Potential tribal health care facilities can be referenced here: <https://www.ihs.gov/findhealthcare/>.
- (4) Policy and advocacy: Advance policies that promote DEI in ATPs to ensure a more supportive environment beneficial to the success of AIAN students. This can be achieved through the establishment of a task force composed of representatives of AIAN ATs (researchers, educators, etc) to develop a position statement or strategic plan that addresses cultural practices related to AIAN populations.

By establishing a diverse and inclusive environment, ATPs can recruit, admit, and retain a student body that is representative of the patient population served.

REFERENCES

1. National Athletic Trainers' Association. October 2022 NATA total membership by job setting. Accessed January 5, 2024. <https://members.nata.org/members1/documents/membstats/2022-10.htm>
2. Adams WM, Terranova AB, Belval LN. Addressing diversity, equity, and inclusion in athletic training: shifting the focus to athletic training education. *J Athl Train*. 2021;56(2):129–133. doi:10.4085/1062-6050-0558-20
3. Siple BJ, Hopson RK, Sobehart HC, Turocy PS. Factors that impede and promote the persistence of Black women in athletic training programs. *Athl Train Educ J*. 2018;13(2):131–147. doi:10.4085/1302131
4. National Athletic Trainers' Association. October 2021 NATA membership by class & district. Access January 5, 2024. <https://members.nata.org/members1/documents/membstats/2021-10.htm>
5. NATA membership statistics. November 2020 NATA Membership by class & district. Accessed January 5, 2024. <https://members.nata.org/members1/documents/membstats/2020-11.htm>
6. Young A, Klossner J, Docherty CL, Dodge TM, Mensch JM. Clinical integration and how it affects student retention in undergraduate athletic training programs. *J Athl Train*. 2023;48(1):68–78. doi:10.4085/1062-6050-48.1.22
7. Dodge TM, Mitchell MF, Mensch JM. Student retention in athletic training education programs. *Athl Train Educ J*. 2009;44(2):197–207.
8. Goforth AN, Brown JA, Machek GR, Swaney G. Recruitment and retention of Native American graduate students in school psychology. *Sch Psychol Q*. 2016;31(3):340–357. doi:10.1037/spq0000160
9. Cross SL, Day A, Gogliotti LJ, Pung JJ. Challenges to recruit and retain American Indian and Alaskan Natives into social work programs: the impact on the child welfare workforce. *Child Welfare*. 2013;92(4):31–53.
10. Herrman H, Stewart DE, Diaz-Granados N, Berger EL, Jackson B, Yuen T. What is resilience? *Can J Psychiatry*. 2011;56(5):258–265. doi:10.1177/070674371105600504
11. Hornor G. Resilience. *J Pediatr Health Care*. 2017;31(3):384–390. doi:10.1016/j.pedhc.2016.09.005
12. Folke C. Resilience (Republished). *Ecol Soc*. 2016;21(4):44. doi:10.5751/ES-09088-210444
13. Egeland B, Carlson E, Sroufe LA. Resilience as process. *Dev Psychopathol*. 1993;5(4):517–528. doi:10.1017/S0954579400006131
14. Rutter M. Resilience as a dynamic concept. *Dev Psychopathol*. 2012;24(2):335–344. doi:10.1017/S0954579412000028
15. Wu G, Feder A, Cohen H, et al. Understanding resilience. *Front Behav Neurosci*. 2013;7. doi:10.3389/fnbeh.2013.00010
16. Windle G. What is resilience? A review and concept analysis. *Rev Clin Gerontol*. 2011;21(2):152–169. doi:10.1017/S0959259810000420
17. McGuire PD. Exploring resilience and Indigenous ways of knowing. *J Aboriginal Indigenous Community Health*. 2010;8(2):117–131.
18. Elm JHL, Lewis JP, Walters KL, Self JM. “I’m in this world for a reason”: resilience and recovery among American Indian and Alaska Native two-spirit women. *J Lesbian Stud*. 2016;20(3-4):352–371. doi:10.1080/10894160.2016.1152813
19. Whap G. A Torres Strait Islander perspective on the concept of Indigenous knowledge. *Aust J Indigenous Educ*. 2001;29(2):22–29. doi:10.1017/S132601100001368
20. Kirmayer LJ, Dandeneau S, Marshall E, Phillips MK, Williamson KJ. Rethinking resilience from Indigenous perspectives. *Can J Psychiatry*. 2011;56(2):84–91. doi:10.1177/070674371105600203
21. Mazerolle SM, Eason CM, Pitney WA. Athletic trainers’ barriers to maintaining professional commitment in the collegiate setting. *J Athl Train*. 2015;50(5):524–531. doi:10.4085/1062-6050-50.1.04
22. Eason CM, Mazerolle SM, Pitney WA. Athletic trainers’ facilitators of professional commitment in the collegiate setting. *J Athl Train*. 2015;50(5):516–523. doi:10.4085/1062-6050-50.1.02
23. Price M, Kallam M, Love J. The learning styles of Native American students and implications for classroom practice. Paper presented at: 8th Native American Symposium and Film Festival: Images, Imaginations, and Beyond. 2009.
24. Swisher K. American Indian/Alaskan Native learning styles: research and practice. ERIC Clearinghouse on Rural Education and Small Schools; 1991:1–7. <https://files.eric.ed.gov/fulltext/ED335175.pdf>
25. LaFromboise TD, Hoyt DR, Oliver L, Whitbeck LB. Family, community, and school influences on resilience among American Indian adolescents in the upper Midwest. *J Community Psychol*. 2006;34(2):193–209.
26. Scarpino G. Resilience and urban Aboriginal women. *Native Social Work J*. 2007;6(1):33–55.
27. Stumblingbear-Riddle G, Romans JS. Resilience among urban American Indian adolescents: exploration into the role of culture, self-esteem, subjective well-being, and social support. *Am Indian Alsk Native Ment Health Res*. 2012;19(2):1–19. doi:10.5820/aian.1902.2012.1

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28. Grandbois DM, Sanders GF. The resilience of Native American elders. *Issues Ment Health Nurs.* 2009;30(9):569–580. doi:10.1080/01612840902916151
 29. Kirmayer LJ, Sehdev M, Whitley R, Dandeneau SF, Isaac C. Community resilience: models, metaphors and measures. *Int J Indigenous Health.* 2009;5(1):62–117.
 30. Smith JL, Cech E, Metz A, Huntoon M, Moyer C. Giving back or giving up: Native American student experiences in science and engineering. *Cultur Divers Ethnic Minor Psychol.* 2014;20(3):413–429. doi:10.1037/a0036945
 31. Oré CE, Teufel-Shone NI, Chico-Jarillo TM. American Indian and Alaska Native resilience along the life course and across generations: a literature review. *Am Indian Alsk Native Ment Health Res.* 2016;23(3):134–157. doi:10.5820/aian.2303.2016.134
 32. Kahn CB, Reinschmidt K, Teufel-Shone NI, Oré CE, Henson M, Attakai A. American Indian elders' resilience: sources of strength for building a healthy future for youth. *Am Indian Alsk Native Ment Health Res.* 2016;23(3):117–133. doi:10.5820/aian.2303.2016.117
 33. Grandbois DM, Sanders GF. Resilience and stereotyping: the experiences of Native American elders. *J Transcult Nurs.* 2012;23(4):389–396. doi:10.1177/1043659612451614
 34. Denham AR. Rethinking historical trauma: narratives of resilience. *Transcult Psychiatry.* 2008;45(3):391–414. doi:10.1177/1363461508094673