COMMENTARY

The Imperative of Cognitive Diversity in Athletic Training Education: A Leadership Literacy

Matthew R. Kutz, PhD, ATC*; Trevor M. Bates, DHSc, ATC†
*Athletic Training, Florida International University, Miami; †True Empowering LLC, Kansas City, KS

Context: The increasing stakeholder diversity in athletic training requires a shift in leadership approaches and necessitates highlighting the need for embracing cognitive diversity.

Objective: Explore the concept of cognitive diversity and its potential to positively impact patient care and interprofessional practice.

Background: Cognitive diversity encompasses variations in unobservable attributes such as attitudes, values, and beliefs, including differences in problem-solving and thinking strategies. It goes beyond traditional diversity initiatives that focus on observable traits. Embracing cognitive diversity can enhance the effectiveness of diversity, equity, inclusion, and access initiatives in athletic training, ultimately improving patient care.

Synthesis: Cognitive diversity serves as a prerequisite to effective diversity, equity, inclusion, and access initiatives. It offers advantages such as enhanced problem-solving, genuine inclusivity, increased access, and improved communication and collaboration. It fosters a culture of continuous learning, cultural sensitivity, and personalized care. Recognizing the nuances of cognitive diversity is crucial for effective interprofessional practice and empathetic patient care.

Results: This article delineates the necessity of cognitive diversity, highlighting the critical component of recognizing unobservable differences between individuals. Cognitive diversity benefits athletic trainers and advances the profession of athletic training through fostering genuine respect, collaboration, and teamwork.

Recommendation(s): Cognitive diversity should be integrated into athletic training education as a prerequisite for clinical practice. Teaching only limited aspects of diversity—those that include observable differences between individuals—may reinforce avoidable biases. Faculty should include and develop curricula that introduce cognitive diversity early in professional preparation.

Conclusions: The increasing complexity of athletic training demands an evolution in leadership literacy that focuses on embracing cognitive diversity. Athletic trainers can apply the benefits of cognitive diversity through compassionate leadership, interprofessional activities, and an understanding of its interplay with cultural diversity. Educators should adapt curricula and continuing education to include cognitive diversity models.

Key Words: Diversity, equity, inclusion, and access (DEIA), interprofessional practice

Dr Kutz is currently Clinical Professor in the Doctor of Athletic Training Program at Florida International University. Address correspondence to Matthew R. Kutz, PhD, ATC, Athletic Training, Florida International University, 11200 SW 8 Street, AHC 3, Miami, FL 33199. mkutz@FIU.edu.

The Imperative of Cognitive Diversity in Athletic Training Education: A Leadership Literacy

Matthew R. Kutz, PhD, ATC; Trevor M. Bates, DHSc, ATC

KEY POINTS

- Cognitive diversity encompasses the variations in differences between individuals that are unobservable such as attitudes, values, beliefs, and problem-solving and thinking strategies.
- Cognitive Diversity, while having an influence on DEIA outcomes, is distinct from other more observable forms of diversity that include, gender, ethnicity, and other noticeable differences between individuals.
- To better foster cognitive diversity it is important to build teams comprising individuals who have demonstrated the required skills and competencies.
- When reviewing candidates for jobs, employers should look for individuals who bring in new perspectives and are willing to add these perspectives to the team's culture, even if they don't necessarily "fit" with the existing culture or threaten the status quo.

INTRODUCTION

Historically, athletic trainers (ATs) have been at the forefront of facing challenges, from personal growth and professional development to shifts in educational standards, degree requirements, certification standards, and standards of practice. Athletic trainers' resilience and adaptability have always been remarkable. Today, as the stakeholder diversity within and surrounding athletic training expands, there is a growing need for a leadership strategy evolution. Traditional methods that thrived in homogenized environments should be upgraded to cater to the requirements of multifaceted stakeholders. This upgrade transcends traditional diversity initiatives.

The growth and diversification of stakeholders is not just a challenge for ATs. Multiple disciplines, including medicine, nursing, and pharmacy, feel this shift. They have all felt the weight of the increasing complexity of interprofessional practice. But with challenges come opportunities, and for ATs, capitalizing on cognitive diversity represents such an opportunity.

WHAT IS COGNITIVE DIVERSITY?

Mello and Rentsch conducted a systematic review on cognitive diversity within teams and reported as many as 9 different definitions.[1] Integrating several of these definitions, we submit that cognitive diversity is the range of differences in unobservable attributes like attitudes, values, and beliefs, encompassing variations in beliefs about cause and effect, preferences for goals, thinking styles, knowledge, skills, and individual backgrounds.[2–5] At a basic level, cognitive diversity is a person's unique preferences relative to problem-solving and thinking strategies. These unobservable attributes are foundational to all differences between people and may carry greater significance than observable differences such as ethnicity, skin color, sexual orientation, gender, and other observable characteristics, as people with these observable differences may have similar cognitive preferences relative to problem-solving and thinking strategies. That said, it is likely that observable differences provide experiences that contribute to cognitive diversity as well.

Cognitive diversity adds value because it allows for vast differences and diverse preferences between people from homogeneous groups. Cognitive diversity is not a different, novel or "back-door" way of introducing diversity, equity, inclusion, and access (DEIA). It is fundamentally different in that it rejects the antecedents of diversity as observable traits or choice-based differences between people. Although cognitive diversity is not directly associated with the traditional implementation and practice of DEIA initiatives, it is related to its successful implementation.

COGNITIVE DIVERSITY: A PATHWAY TOWARD DEIA INITIATIVES IN HEALTH CARE

DEIA initiatives have increasingly gained traction in health care reform. Their primary goal? To ensure every patient gets optimal care, regardless of background. Most DEIA initiatives spotlight cultural, ethnic, and gender diversities. However, cognitive diversity, with its encompassing range, offers a foundational pillar that can propel these initiatives to truly revolutionize health care.

1. **Understanding the Root of Diversity**: Cognitive diversity is about diverse ways of thinking, processing, and perceiving problem-solving. Grounding DEIA in cognitive diversity means recognizing diversity as more than representation—it is about valuing myriad perspectives to enhance patient care and health care outcomes.
2. **Promoting Genuine Inclusivity**: DEIA, when founded on cognitive diversity, fosters a culture where every voice is valued, emphasizing that inclusivity transcends numbers or quotas.
3. **Driving Equity and Access**: By appreciating cognitive diversity, health care providers recognize the importance of personalized care, ensuring equitable access and comprehension for all patients.
4. **Enhancing Problem-Solving**: Embracing cognitive diversity allows for a confluence of varied thinking approaches, fostering comprehensive solutions vital for individual and institutional success.
5. **Fostering Cultural Sensitivity**: A cognitive diversity focus leads to a better understanding of cultural nuances, essential for culturally competent care.
6. **Enhancing Communication and Collaboration**: Rooting DEIA in cognitive diversity means fostering effective communication, enhancing interprofessional collaborations, and strengthening patient-provider relationships by removing language barriers and recognizing individual and cultural expectations of health and care.
7. **Empowering Continuous Learning**: Valuing cognitive diversity paves the way for an environment of continuous learning, enhancing patient care methodologies and best practices.

THE NUANCES OF COGNITIVE DIVERSITY

Cognitive diversity encapsulates differing perspectives and thought processes. Although cultural and ethnic diversity are

vital to understand, they alone cannot meet the demands of modern interprofessional practices. That is because 2 individuals from different backgrounds might think similarly, whereas 2 from the same background could think differently. Thus, cognitive diversity offers a more encompassing approach to understand different viewpoints, which is crucial for problem-solving in situations with diverse stakeholder needs and expectations.

COMPASSIONATE LEADERSHIP THROUGH COGNITIVE DIVERSITY

Athletic trainers have a unique opportunity to apply the benefits that arise from cognitive diversity by adopting and promoting compassionate leadership. This leadership style places a significant emphasis on empathy, recognizing and valuing the myriad ways of thinking, and fostering an environment conducive to such diversity. One of the foundational pillars of compassionate leadership is effective communication, which is a required skill for ATs noted in the Board of Certification's (BOC) Practice Analysis, 8th edition.[6(p60)] Communication is not just about conveying a message, but, more importantly, about actively listening and being receptive to the varied perspectives presented by others. Communication that is informed by cognitive diversity fosters being able to provide another BOC requirement of "practicing leadership appropriate to situations and people."[6(p60)]

Active listening, in this context, moves beyond mere hearing and involves a genuine effort to understand and value the insights offered. Additionally, to truly lead with compassion, ATs need to focus on developing both emotional and contextual intelligences.[7,8] This means being attuned to the emotional nuances of interactions and understanding the context in which these interactions occur.

Furthermore, compassionate leadership is not just about external interactions; it also demands introspection. ATs must be willing to consistently challenge their preconceived notions and biases. This internal reflection, combined with an external focus on understanding and valuing cognitive diversity, ensures a holistic approach to leadership that benefits both the ATs and those they work with.

INTERPROFESSIONAL ACTIVITIES: THE ROLE OF COGNITIVE DIVERSITY

For ATs, the realm of interprofessional activities is not just an added dimension to their profession; it is fundamental to ensuring holistic and patient-centric care. For example, the BOC Practice Analysis mandates "collaborating with stakeholders and other health care providers."[6(p60)] In these settings, where different professionals come together with a singular focus on patient well-being, the value of diverse methodologies and perspectives is magnified. It is here that cognitive diversity—the range of ways individuals perceive, think, and approach problems—shines as a potent tool for enhancing collaboration and patient outcomes.

One of the primary accelerants to successful interprofessional practice is openness to, and recognition of, philosophies of practice that may differ from one's own. These philosophies, informed by unique training, experiences, and perspectives, are the bedrock of cognitive diversity. By embracing these distinct approaches, ATs not only enrich their professional toolkit but also foster an environment of mutual respect and understanding.

Yet acknowledgment alone is insufficient. To truly harness the power of cognitive diversity in interprofessional settings, proactive measures like collaborative practice become invaluable. Such initiatives bridge the gap between different professions, offering a platform for knowledge exchange and nurturing an atmosphere where every professional learns from and values the expertise of others.

For ATs, the journey toward leveraging cognitive diversity in interprofessional endeavors is ongoing, but the rewards—in terms of enriched collaborations, expanded knowledge, and enhanced patient care—can be profound.

THE NUANCED INTERPLAY BETWEEN COGNITIVE AND CULTURAL DIVERSITY

Distinguishing between cognitive and cultural diversity is crucial. Although the terms *cognitive diversity* and *cultural diversity* might mistakenly be used interchangeably, they are distinct. Cognitive diversity encapsulates the varied ways of thinking, processing information, and problem-solving. In contrast, cultural diversity is rooted in backgrounds, traditions, values, and lived experiences. Recognizing cognitive diversity as the foundation for cultural appreciation ensures deeper understanding and celebration of both.

Recognizing cognitive diversity as the precursor to cultural diversity is pivotal for several reasons:

1. **Holistic Approach**: This understanding allows for a comprehensive appreciation of an individual's potential contributions without confining them to cultural or ethnic backgrounds.
2. **Inclusivity**: Every group, irrespective of visible cultural diversities, is cognitively diverse. This realization ensures comprehensive inclusivity.
3. **Effective Collaboration**: In interprofessional setups, appreciating cognitive diversity nuances can lead to enhanced collaborations.
4. **Deepening Empathy**: Acknowledging the foundational role of cognitive diversity in understanding cultural diversity can foster deeper empathy.

With an emphasis on cognitive diversity, an environment can be created where all types of diversity are not just recognized but genuinely understood and celebrated. Professionals, including ATs, can harness this understanding for both personal and professional growth. The Table is a breakdown of the interplay between cognitive and cultural diversity.

THE ROAD AHEAD WITH COGNITIVE DIVERSITY

The intricacies of professions like athletic training are evolving, necessitating an evolution in leadership. Although traditional strategies hold their value, there is an undeniable need to embrace the richness of cognitive diversity. For ATs, the path forward is not just about acknowledging cognitive diversity, but about actively fostering, leveraging, and celebrating it, even if the differences being celebrated are between people of homogeneous groups and especially if they are from heterogeneous groups. In doing so, ATs position themselves to meet contemporary interprofessional practice demands while envisioning a more inclusive professional future.

MOVING FORWARD WITH COGNITIVE DIVERSITY

Leadership models might need to change to include the richness cognitive diversity offers. For ATs, this means actively nurturing

Table. Distinctions Between Cognitive and Cultural Diversity

| Aspect	Cognitive Diversity	Cultural Diversity
Basic description	Range of differences in unobservable attributes such as attitudes, values, thinking styles, knowledge, skills, and problem-solving preferences.	Differences rooted in backgrounds, traditions, heritage, ethnicity-based values, beliefs, and lived experiences.
Epistemology	Focuses on varying ways of thinking, processing information, and problem-solving approaches.	Centers around visible and shared characteristics tied to specific cultural or ethnic groups.
Observable traits	Not based on observable traits like ethnicity, gender, or appearance.	Often based on observable traits like language, attire, or physical appearance.
Emphasis	Values diverse approaches to problem-solving and critical thinking.	Values the richness of heritage and traditions from various cultures.
Impact on collaboration	Enhances problem-solving by bringing diverse viewpoints to the table.	Enhances cross-cultural communication and understanding in diverse teams.
Relevance in health care	Improves patient care by promoting diverse problem-solving strategies.	Improves patient care by understanding diverse patient needs and cultural contexts.
Personal growth	Emphasizes cognitive preferences and adaptive thinking styles.	Nurtures empathy and a broader understanding of global perspectives.
Focus on care	Supports impartial care through diverse problem-solving approaches.	Promotes impartial care by addressing cultural sensitivities and individual preferences.
Adaptability	Variable and can change based on learning, experiences, or context.	Rooted in heritage and tends to be more stable over time.
Emphasis on inclusion	Encourages diverse ways of thinking and values each person's unique cognitive approach regardless of similarities or cultural heritage.	Embraces the inclusion of individuals with diverse ideas that are rooted in cultural heritage.

and celebrating cognitive diversity. This approach not only addresses the needs of contemporary interprofessional practice but also promises a more inclusive future for the profession.

The Figure, inspired by Mello and Rentsch's review of cognitive diversity, is an attempt to clarify the 4 domains vital for cognitive diversity on interprofessional teams[1]:

- **Trait-like Diversity**: Represents less-dynamic cognitive attributes like personality preferences and preferred leadership styles.
- **Developmental Diversity**: Evolves over life, representing values and adaptable worldviews.
- **Acquired Diversity**: Context specific and mutable, it includes knowledge, skills, and job satisfaction.
- **Exposed Diversity**: Molded through specific training or roles, it can change based on the environment.

Together, these domains form the intricate tapestry of cognitive diversity necessary for efficient health care team dynamics.

Figure. Domains of cognitive diversity.
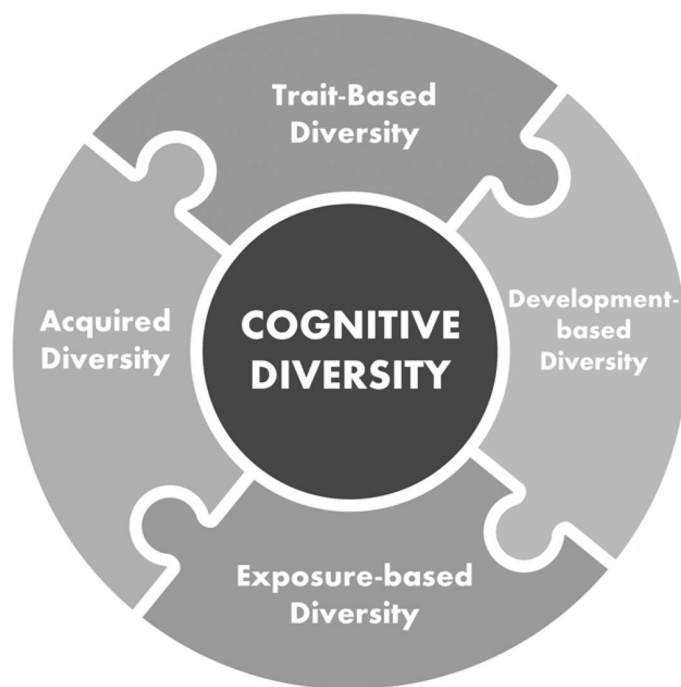
CONCLUSIONS AND PRACTICAL IMPLICATIONS FOR AT EDUCATION

The role of educators has transcended clinical preparedness. Athletic training educators must also assume responsibility for shaping the leadership literacy and professional skills necessary to navigate the turbulence and complexity of the health care environment. For example, organizations who hire for cultural fit may be guilty of violating the principles of cognitive diversity, when instead they should be hiring for cognitive-add. For educators, it is imperative to recognize the implications of cognitive diversity not only on hiring practices, but also on curriculum and clinical decision-making. The expanding diversity of stakeholders demands a paradigm shift in leadership development, with a focus on elevating cognitive diversity as a prerequisite to meeting the demands of interprofessional practice. Therefore, we suggest the following recommendations to athletic training educators as they grapple with the challenge of expanding their current understanding of diversity to include cognitive diversity:

1. **Rethink Leadership Strategies:** By fostering an environment that celebrates cognitive diversity, educators can prepare their

students to lead with compassion, adaptability, and inclusivity in a multifaceted health care landscape.

2. **Integrate Cognitive Diversity Into Curricula:** As educators, there is an opportunity to reshape curricula to reflect the importance of cognitive diversity as a prerequisite to understanding other forms of diversity. Integrating discussions, case studies, and projects that emphasize diverse problem-solving approaches can equip future ATs with the skills needed to excel in interprofessional settings.

3. **Nurture Inclusive Learning Environments:** By recognizing that cognitive diversity goes beyond visible traits, educators can create spaces where students feel safe and empowered to contribute their unique perspectives and approaches to problem-solving.

4. **Encourage Holistic Growth:** By instilling an appreciation for cognitive diversity as a precursor to cultural diversity, educators can equip their students with the tools to provide holistic care that transcends backgrounds and experiences.

5. **Adopt Emergent Curriculum Adaptations:** The landscape of athletic training is changing rapidly, demanding rapid adjustments in both practice and education. Educators must continually adapt their curricula to include the intricacies of cognitive diversity and leadership literacy as they emerge. Incorporating the framework presented in the Figure can provide a structured approach to teaching the complexities of cognitive diversity.

Integrating cognitive diversity into professional education as well as continuing education for practicing ATs will not be easy. The professional curriculum is already full, and continuing education often emphasizes advanced clinical skills, but besides those factors, the implications of cognitive diversity are significant. Some may accuse faculty of abandoning traditional efforts of DEIA education. Embracing cognitive diversity goes beyond mere symbolic representation; it involves a fundamental transformation in how we approach diversity, professional networking, patient experiences, and collaborative care. By incorporating the principles of compassionate leadership, inclusive education, and interdisciplinary collaboration, educators can pass on the power to shape the profession. Educators must strive to prepare clinicians who not only are equipped with the technical skills but also possess the empathy and adaptability needed to thrive in an environment where patients, peers, and other stakeholders, regardless of observable similarities, may still be vastly diverse.

REFERENCES

1. Mello AL, Rentsch JR. Cognitive diversity in teams: a multidisciplinary review. *Small Group Res*. 2015;46(6):623–658. doi:10.1177/1046496415602558

2. Kilduff M, Angelmar R, Mehra A. Top management-team diversity and firm performance: examining the role of cognitions. *Organ Sci*. 2000;11(1):21–34. doi:10.1287/orsc.11.1.21.12569

3. Shin S, Kim T, Lee J, Bian L. Cognitive team diversity and individual team member creativity: a cross-level interaction. *Acad Manag J*. 2012;55(1):197–212. doi:10.5465/amj.2010.0270

4. Miller C, Burke L, Glick WC. Cognitive diversity among upper-echelon executives: Implications for strategic decision processes. *Strateg Manage J*. 1998;19(1):39–58. doi:10.1002/(SICI)1097-0266 (199801)19:1<39::AIDSMJ932>3.0.CO;2-A

5. Sauer J, Felsing T, Franke H, Ruttinger B. Cognitive diversity and team performance in a complex multiple task environment. *Ergonomics*. 2006;49(10):934–954. doi:10.1080/00140130600577502

6. Henderson J. *The 2021 Athletic Trainer Practice Analysis*. 8th ed. Board of Certification; 2021.

7. Eberman LE, Kahanov L. Emotional intelligence: a requisite for good clinical practice. *Athl Train Educ J*. 2011;6(3):127–128.

8. Kutz MR. The need for contextual intelligence in athletic training. *Int J Athl Ther Train*. 2022;27(6):261–265. doi:10.1123/ijatt.2022-0102