

How NCAA division I student-athletes conceptualize environmental sustainability

Abstract

Environmental sustainability has become an increasingly important priority within sport organizations, yet little is known about how student-athletes conceptualize environmental sustainability or perceive their role in promoting environmentally responsible practices. Guided by Social Learning Theory, this qualitative study explored how NCAA Division I student-athletes understand environmental sustainability. Semi-structured interviews were conducted with 13 student-athletes at a Group of Five institution, and data were analyzed using thematic analysis. Three overarching themes emerged: (a) student-athletes initially conceptualized sustainability through athletic identity rather than environmental stewardship, (b) sustainability was primarily understood through everyday behaviors reinforced through athletic culture, and (c) participants recognized their potential to promote environmental sustainability while identifying barriers to meaningful engagement. Findings suggest that student-athletes often participate in environmentally responsible behaviors despite possessing limited environmental literacy. This study extends the sport sustainability literature by demonstrating that the success of sustainability initiatives depends not only on organizational commitment, but also on intentionally developing environmental literacy among student-athletes.

Keywords: college athletics, environmental sustainability, environmental literacy, student-athletes, Social Learning Theory

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Sport organizations are increasingly expected to address environmental sustainability by reducing their environmental impact while leveraging the influence of sport to promote environmentally responsible behaviors among participants, spectators, and surrounding communities.^{1,2} As concerns surrounding climate change, resource depletion, and environmental stewardship have intensified, environmental sustainability has become a growing area of scholarship and practice within sport management.^{3,4} Sustainability efforts now extend across professional, collegiate, and community sport, reflecting the recognition that sport can serve not only as a consumer of natural resources but also as a platform for education, behavior change, and social influence.⁵⁻⁷ Consequently, environmental sustainability has evolved from an operational concern into a strategic priority for sport organizations seeking to balance environmental responsibility with their broader educational and societal missions.

Intercollegiate athletics occupies a unique position within this broader movement because it exists at the intersection of sport and higher education.⁸ Colleges and universities have increasingly integrated environmental sustainability into their strategic priorities, campus operations, and educational missions, recognizing their responsibility to prepare students to address complex environmental challenges.⁹⁻¹¹ Athletic departments have become an important component of these institutional efforts by implementing recycling programs, waste reduction initiatives, sustainable facility management, environmentally responsible game-day operations, and educational programming.^{4,12} Beyond reducing their environmental footprint, collegiate athletics provides a distinctive educational environment where sustainability can be modeled, reinforced, and practiced through everyday experiences. Student-athletes learn not only through formal institutional initiatives but also through daily interactions with

coaches, teammates, athletic administrators, and the broader culture of sport.^{13,14} Consequently, collegiate athletics represents an ideal setting for understanding how environmental sustainability is learned, interpreted, and translated into individual beliefs and behaviors.¹⁵⁻¹⁸

The success of environmental sustainability efforts depends not only on organizational commitment but also on the environmental literacy of the individuals expected to participate in and reinforce those efforts. Environmental literacy extends beyond awareness of environmental issues to encompass the knowledge, skills, attitudes, and behaviors necessary to make informed and environmentally responsible decisions.^{19,20} Research consistently demonstrates that individuals do not conceptualize sustainability in the same way.²¹ found that university students varied considerably in how they understood sustainability, suggesting that perceptions are shaped by educational experiences, social environments, and lived experiences rather than institutional messaging alone. Likewise, Emanuel and Adams (2011)²² reported that although most college students were familiar with the term *sustainability*, relatively few considered themselves knowledgeable about sustainability-related issues. Similarly, Kagawa (2007)²³ found that many students expressed concern for environmental issues while possessing only a limited understanding of sustainability as a broader concept. Within collegiate athletics, Casper, Pfahl, and McCullough (2017)²⁴ demonstrated that individuals' perceptions of athletic department sustainability initiatives influenced their engagement with those efforts, reinforcing the importance of understanding how sustainability is interpreted by those expected to participate. Collectively, this research suggests that participation in sustainability initiatives should not be equated with environmental literacy. Understanding how individuals conceptualize environmental sustainability is therefore an essential first step in developing educational strategies that foster meaningful and lasting environmental engagement.

Student-athletes represent a particularly important population for examining environmental sustainability because they are central to the success of sustainability efforts within collegiate athletics. While athletic departments may implement environmental initiatives, the effectiveness of those efforts ultimately depends on whether student-athletes understand, value, and engage in environmentally responsible behaviors. Compared with many of their peers, student-athletes spend a substantial portion of their collegiate experience within the athletic department, where interactions with coaches, teammates, athletic administrators, academic support personnel, and institutional expectations shape their daily experiences and reinforce shared norms and behaviors.²⁵ These experiences contribute to student-athlete development by emphasizing leadership, ethical decision-making, civic engagement, and personal responsibility.²⁶ Consequently, collegiate athletics provides a unique environment for examining how perceptions of environmental sustainability are developed and reinforced. Despite student-athletes' central role within collegiate athletics, little is known about how they conceptualize environmental sustainability or whether they perceive environmental responsibility as part of their collegiate experience.

Social Learning Theory^{27,28} provides an appropriate framework for understanding how student-athletes develop perceptions of environmental sustainability. Rather than viewing learning as the result of direct instruction alone, Social Learning Theory proposes that individuals construct knowledge, attitudes, and behaviors through continuous interactions with their social environments. Learning occurs as individuals observe the behaviors of others, interpret social cues, and receive reinforcement for particular attitudes and actions.^{27,28} Consequently, perceptions are not formed in isolation but are shaped through everyday experiences and interpersonal relationships. Within collegiate athletics, student-athletes are immersed in a distinct social environment where coaches, teammates, athletic administrators, and institutional norms continually reinforce expectations and influence behavior.¹⁴ This perspective suggests that student-athletes' understandings of environmental sustainability are likely to reflect not only institutional messaging but also the values, behaviors, and experiences encountered throughout their athletic careers. Social Learning Theory therefore provides an appropriate framework for examining how student-athletes construct meaning around environmental sustainability and why individuals participating in similar athletic environments may nevertheless develop different understandings of sustainability.

Despite the continued growth of sport sustainability research, scholarship has focused predominantly on organizational sustainability strategies, environmental management practices, and institutional initiatives.²⁹ Although this work has advanced understanding of how sport organizations can reduce their environmental impact, considerably less attention has been devoted to understanding how student-athletes conceptualize environmental sustainability or how those understandings influence their willingness to engage in environmentally responsible behaviors. Guided by Social Learning Theory,^{27,28} this study shifts the focus from organizational practices to the individuals expected to experience, interpret, and reinforce sustainability efforts within collegiate athletics.

Therefore, the purpose of this study was to explore how NCAA Division I student-athletes conceptualize environmental sustainability and perceive their role in promoting environmentally responsible practices. By centering the perspectives of student-athletes, this study extends the sport sustainability literature beyond organizational initiatives to examine how environmental sustainability is understood within the social context of collegiate athletics. Understanding

how student-athletes construct meaning around environmental sustainability provides an important foundation for designing educational strategies that strengthen environmental literacy and enhance the effectiveness of sustainability programming within athletic departments. More broadly, this study recognizes that the long-term success of environmental sustainability initiatives depends not only on institutional commitment and organizational practices, but also on how individuals learn, interpret, and internalize environmental values.

Methodology

This study employed a qualitative research design to explore how NCAA Division I student-athletes conceptualize environmental sustainability and perceive their role in promoting environmentally responsible practices. Guided by a constructivist perspective, the study recognized that participants construct meaning through their experiences and interactions within their social environments.³⁰ A qualitative approach was appropriate because the purpose of the study was to understand how student-athletes made meaning of environmental sustainability within the context of collegiate athletics.

Data were collected through semi-structured interviews conducted virtually using Zoom, an approach that provides flexibility while facilitating rapport and in-depth qualitative inquiry (Archibald et al., 2019).³¹ Prior to each interview, participants provided informed consent for participation and audio recording, and all interviews were professionally transcribed for analysis. Semi-structured interviews were selected because they allow researchers to explore participants' experiences while providing the flexibility to ask follow-up questions and probe for clarification as new ideas emerge.^{32,33}

The interview protocol consisted of open-ended questions designed to explore participants' understandings of environmental sustainability, perceptions of sustainability within collegiate athletics, sustainability-related behaviors, athletic department sustainability initiatives, barriers to sustainability engagement, and their perceived role in promoting environmentally responsible practices. Follow-up questions were used throughout each interview to encourage participants to elaborate on their responses and provide additional context.³²

Participants

Student-athletes (n=13) at an NCAA "Group of Five" (G5; non-Power 4) participated in this study (Table 1). The student-athletes participated in multiple sports (e.g., football, soccer, volleyball, track and field), years of study (e.g., sophomores to fifth-year seniors), and represented a variety of academic majors (e.g., sport management, journalism, business management, psychology, biology, engineering, exercise science, interior design, social work). Participants also represented diverse racial and ethnic backgrounds including Black/African American, White, biracial, and Caribbean identities. To protect participant confidentiality, participants were asked to select a pseudonym, which were utilized throughout the present study.

Data analysis

Interview transcripts were analyzed using thematic analysis following Braun and Clarke's (2006, 2019)^{34,35} six-phase approach. The researchers first familiarized themselves with the data through repeated readings of each transcript before independently generating initial codes that captured meaningful features of participants' responses. Following independent coding, the researchers met regularly to compare interpretations, discuss emerging patterns, and refine coding decisions through an iterative and collaborative process.

Table 1 Participant demographic information

Participant	Age	Race/Ethnicity	Sport	Academic Standing	Major
HIM	20	African American	Football	Sophomore	Sport Management
Chris	19	White/Caucasian	Soccer	Freshman	Biology
Jane	20	Black	Track and Field	Junior	Social Work
Michael	21	Biracial (White and Black)	Football	Junior	Psychology
Ruby	23	Black	Soccer	Senior	Business Management
Vanessa	21	White	Soccer	Junior	Business Management
Ashley	21	White	Volleyball	Junior	Interior Design
Jessica	21	Black	Soccer	Junior	Sport Management
Rose	21	Black	Track and Field	Senior	Journalism
Day	22	African American	Track and Field	Fifth-Year Senior	Mechanical Engineering
BJ	22	Black/African American	Track and Field	Senior	Exercise Science
Peanut	19	Black/African American	Track and Field	Sophomore	Civil Engineering
XP	21	Black and Caribbean	Track and Field	Senior	Sport Management

Note: Pseudonyms were selected by participants to protect confidentiality

As coding progressed, related codes were grouped into broader categories and continually reviewed across transcripts to identify patterns shared among participants while preserving the richness of individual experiences. Throughout the analytic process, the researchers engaged in analytic memoing to document emerging ideas, coding decisions, and evolving interpretations of the data. Interview transcripts were revisited throughout the analysis to ensure that the developing themes remained grounded in participants’ narratives and accurately reflected their perspectives.

The iterative analysis resulted in three overarching themes that described how student-athletes conceptualized environmental sustainability, how sustainability was practiced and reinforced within collegiate athletics, and the barriers that influenced meaningful sustainability engagement. Representative participant quotations are presented throughout the Results to illustrate each theme and provide transparency between the data and the researchers’ interpretations.³⁵

Results

Analysis of the 13 semi-structured interviews revealed that student-athletes initially conceptualized sustainability through the culture and language of athletics rather than environmental stewardship. Although participants demonstrated awareness of environmental issues such as recycling, climate change, and conservation, their understandings of environmental sustainability were largely shaped by athletic identity, everyday experiences, and the social environment of collegiate athletics. Three themes emerged from the data: (a) conceptualizing sustainability through athletic identity, (b) practicing sustainability through everyday behaviors and athletic culture, and (c) understanding athlete responsibility for environmental sustainability.

Conceptualizing sustainability through athletic identity

The most prominent finding across the interviews was that participants initially understood *sustainability* through the language and culture of athletics rather than environmental stewardship. Before environmental sustainability was clarified during the interview, participants consistently associated sustainability with concepts such as consistency, discipline, accountability, maintaining routines, and long-term performance. Rather than interpreting sustainability as an environmental concept, athletes first filtered the term through their experiences as competitors.

Day described sustainability as “being able to stay driven...on course,” while BJ defined it as “being consistent daily.” Similarly, Peanut associated sustainability with “maintaining” and “staying on course,” and Jessica explained that sustainability “goes hand in hand with consistency.” Michael described sustainability as “being able to maintain something over time,” whereas Vanessa viewed it as “doing something that lasts and keeps working in the future.”

Although participants generally demonstrated awareness of environmental issues, most acknowledged that their knowledge of environmental sustainability remained limited. Many recognized concepts such as climate change, recycling, and conservation but described their understanding as surface level. Day admitted his knowledge was “pretty surface level,” Peanut rated his understanding as “a five or six” out of ten, and Ashley explained that she “could definitely be more educated.” Despite these limitations, participants consistently expressed concern for environmental issues. Peanut stated that “climate change is real,” Rose explained, “I don’t want my children to grow up in a world where the air isn’t breathable,” and Vanessa simply reflected, “We only get one earth.”

Participants described learning about environmental sustainability through a variety of informal experiences rather than through structured environmental education. Social media, coursework, family practices, teammates, and previous school experiences all contributed to their understanding. Several participants also noted that the interview itself prompted them to think more deeply about environmental sustainability. Day reflected, “This conversation makes me realize how little I know,” while XP acknowledged that he “didn’t have a clear vision on what sustainability even meant till now.” Together, these findings suggest that student-athletes entered the interviews with general environmental awareness but often lacked a well-developed understanding of environmental sustainability.

Practicing sustainability through athletic culture and athlete influence

After discussing what environmental sustainability meant, participants shifted their attention toward how sustainability was practiced within collegiate athletics. Rather than describing environmental sustainability through institutional policies or large-scale environmental initiatives, participants primarily associated sustainability with visible, everyday behaviors. Recycling, using reusable water bottles, reducing waste, conserving electricity,

cleaning shared spaces, and respecting the athletic environment were consistently described as practical expressions of sustainability. These behaviors were viewed as extensions of the discipline, accountability, and responsibility already embedded within athletic culture.

Many participants described recycling and waste reduction as their most common sustainability practices. Chris explained that carrying a reusable water bottle had become part of her daily routine, while Peanut shared that he “wash[es] and reuses the same water bottle every day.” BJ emphasized simple habits such as turning off lights and conserving electricity, and XP explained that he turns off his gaming systems “because I know I’ll be using less.” Rose discussed limiting water use, Ashley described intentionally purchasing sustainable products when possible, and Vanessa shared that she avoids plastic straws and unnecessary waste.

Participants also framed sustainability as respect for shared spaces rather than simply environmental protection. HIM explained, “If I see trash on the ground, throw it away,” while Michael believed athletic teams should “leave the place cleaner than we found it.” BJ similarly explained that cleaning athletic facilities was “more so just respect than just doing it,” suggesting that environmental behaviors had become normalized through expectations of accountability rather than formal sustainability education.

Athletic culture played a central role in reinforcing these behaviors. Participants consistently described coaches and teammates modeling and encouraging responsibility within athletic environments. HIM explained that “our coaches harp on people throwing stuff away,” while XP noted that coaches “really harp on just picking up after our trash.” BJ described how teammates routinely cleaned buses before leaving road trips, and Jessica explained that athletes were expected to clean locker rooms and competition spaces following events. Rather than formal sustainability initiatives, participants described sustainability as something learned through the everyday routines and expectations of athletic participation.

Although these behaviors were common, participants rarely viewed sustainability as an institutional priority within collegiate athletics. Instead, they described sustainability as something practiced informally by individuals rather than intentionally promoted by athletic departments. Jessica reflected, “If coaches were really big on it, maybe we would focus on it more,” while XP suggested that athletic departments often prioritize “accolades” and competitive success over sustainability initiatives. These responses suggest that sustainability was reinforced through athletic culture but was seldom framed explicitly as environmental stewardship.

Despite this limited institutional emphasis, participants overwhelmingly believed that student-athletes possess considerable influence to promote environmental sustainability. Athletes consistently described themselves as visible members of their campuses and communities whose behaviors could shape the attitudes of teammates, younger students, and fans. Peanut explained that athletes are “looked up to,” while Chris similarly stated that “people look up to us.” Rose described athletes as highly visible because “we are on TV... people know our faces,” and XP emphasized that athletes have “a very known voice.”

Participants viewed sustainability as an opportunity to demonstrate leadership and responsibility. Jessica explained that athletes should “show everyone else that you can be sustainable,” while Peanut believed athletes could “get people behind us and follow our lead.” XP suggested that engaging in sustainability “shows responsibility”

and “shows your character,” reinforcing the idea that environmental stewardship aligned with qualities already valued within athletics.

Several participants also recognized that sustainability could complement personal branding and Name, Image, and Likeness (NIL) opportunities. Day explained that sustainability engagement “would help show the type of person that you are,” while Peanut believed it could “help build your status and build your brand because they see that you’re trying to do something good.” Rose suggested that “there’s a lot of NIL deals that could come from that,” and Jessica explained that sustainability advocacy could help athletes “reach a different audience.” Although NIL was not discussed as a primary motivation for sustainability engagement, participants viewed environmental responsibility as consistent with authenticity, leadership, and positive public representation.

Collectively, these findings suggest that student-athletes viewed environmental sustainability less as a series of organizational initiatives and more as a set of everyday behaviors reinforced through athletic culture. Coaches, teammates, and daily athletic routines shaped how sustainability was practiced, while athletes also recognized their potential to influence others through the behaviors they modeled. These findings illustrate that environmental sustainability was understood as both an individual responsibility and a social practice embedded within the culture of collegiate athletics.

Barriers to Environmental Sustainability Engagement

Although participants generally expressed positive attitudes toward environmental sustainability and believed student-athletes could promote environmentally responsible behaviors, they also identified several barriers that limited meaningful engagement. Participants consistently described competing priorities, limited environmental knowledge, convenience, and a lack of institutional emphasis as factors that prevented sustainability from becoming a more visible part of collegiate athletics.

Time constraints emerged as one of the most frequently discussed barriers. Participants described balancing the demands of athletics, academics, employment, and personal responsibilities, leaving little time to prioritize environmental sustainability. Day explained that “we have so much on our mind,” noting that sustainability often becomes secondary to athletic and academic responsibilities. Ruby similarly admitted that sustainability “isn’t really one of my main goals,” while BJ explained that student-athletes naturally focus on the immediate demands of training, competition, and school before considering broader environmental issues.

Participants also described social and cultural barriers within athletics. XP explained that “getting everybody on board” would be “the hardest thing,” suggesting that meaningful change requires collective commitment rather than individual action. BJ identified “pride” as a barrier, explaining that some individuals resist changing established behaviors. Peanut similarly observed that many people believe they are already doing enough environmentally, limiting their willingness to adopt additional sustainable practices. Michael described routinely seeing teammates litter or ignore recycling opportunities, while Chris explained that many students simply “don’t think about it.”

Convenience and habit further influenced sustainability engagement. XP acknowledged, “I’ll be better off with plastic forever,” illustrating how established routines often outweighed environmental intentions. Day noted that conversations about sustainability

were rarely integrated into everyday athletic experiences, making environmental responsibility feel like “something else that I might need to think about” rather than a natural part of athletic participation. Collectively, these responses suggest that sustainability was often viewed as an additional responsibility rather than one embedded within the culture of collegiate athletics.

Despite these challenges, participants remained optimistic about increasing sustainability engagement among student-athletes. Many recommended incorporating sustainability education into team meetings, athletic programming, community service initiatives, and social media campaigns. Others suggested that coaches and athletic administrators could play a more active role by modeling environmentally responsible behaviors and integrating sustainability into existing team expectations. Rather than calling for large-scale institutional reforms, participants emphasized practical educational opportunities that aligned with the routines and culture of collegiate athletics.

Overall, participants viewed the barriers to sustainability engagement as both individual and organizational. While personal habits, competing priorities, and limited environmental literacy influenced individual behavior, participants also recognized that athletic departments had opportunities to more intentionally integrate environmental sustainability into the student-athlete experience. These findings suggest that increasing sustainability engagement may depend less on creating entirely new initiatives and more on embedding environmental education within the existing structures, relationships, and cultural expectations of collegiate athletics.

Discussion

The purpose of this study was to explore how NCAA Division I student-athletes conceptualize environmental sustainability and perceive their role in promoting environmentally responsible practices. Findings suggest that while student-athletes generally valued environmental sustainability, many lacked a well-developed understanding of the concept. Rather than initially interpreting sustainability through an environmental lens, participants first conceptualized sustainability through the language and culture of athletics, including consistency, discipline, accountability, and maintaining performance. As participants reflected throughout the interviews, they described environmental sustainability as a series of everyday behaviors reinforced through coaches, teammates, and athletic culture while simultaneously recognizing both their influence and the barriers limiting broader engagement. Collectively, these findings suggest that environmental sustainability within collegiate athletics is learned through social experiences rather than institutional messaging alone.

The findings support previous research demonstrating that environmental awareness does not necessarily translate into environmental literacy. Similar to Boca and Saraçlı (2019),²¹ Emanuel and Adams (2011),²² and Kagawa (2007),²³ participants demonstrated general awareness of environmental issues while acknowledging limited knowledge of environmental sustainability as a broader concept. Most participants recognized recycling, climate change, and conservation but described their understanding as “surface level,” suggesting that awareness should not be equated with environmental literacy. This study extends previous research by demonstrating that this distinction also exists within collegiate athletics. Although athletic departments increasingly invest in sustainability initiatives,^{36,4} student-athletes may actively participate in environmentally responsible behaviors without fully understanding the broader environmental

concepts those initiatives are intended to promote. These findings suggest that educational efforts should move beyond encouraging sustainable behaviors to intentionally developing environmental literacy among student-athletes.

The findings also provide strong support for Social Learning Theory as a framework for understanding how student-athletes develop perceptions of environmental sustainability. Participants consistently described learning about sustainability through coaches, teammates, family members, classroom experiences, social media, and everyday athletic routines rather than through formal environmental education. These findings align with Bandura’s (1977, 1986)^{27,28} proposition that knowledge, attitudes, and behaviors are constructed through observation, reinforcement, and interactions within social environments. At the same time, athletes competing within the same athletic department demonstrated considerable variation in how they understood sustainability, suggesting that previous experiences and external influences also shaped environmental literacy. This extends the application of Social Learning Theory within sport sustainability research by illustrating that while athletic culture provides an important learning environment, student-athletes’ conceptualizations of environmental sustainability are also influenced by experiences beyond athletics.

The findings further highlight collegiate athletics as a unique educational environment in which environmental sustainability can be learned through existing cultural norms and daily interactions. Participants consistently described coaches and teammates reinforcing behaviors such as cleaning shared spaces, recycling, conserving resources, and respecting athletic facilities. Interestingly, these behaviors were rarely described as environmental sustainability; instead, they were framed as accountability, discipline, and respect for teammates and shared spaces. This finding supports previous work describing collegiate athletics as an influential developmental environment^{25,26} while extending that literature by suggesting that athletic departments may already possess a strong cultural foundation upon which environmental sustainability initiatives can be built. Rather than introducing sustainability as an entirely new expectation, educational programming may be more effective when environmental stewardship is connected to values already embedded within athletic culture.

Participants also recognized that student-athletes possess considerable influence to promote environmental sustainability, but they emphasized that influence should be accompanied by knowledge and authenticity. Consistent with previous research describing student-athletes as visible campus leaders and role models,²⁶ participants believed athletes could positively influence teammates, younger athletes, and surrounding communities. Several participants also discussed opportunities to integrate sustainability into personal branding and NIL activities, suggesting that environmental responsibility could reinforce authenticity, leadership, and positive public representation.¹³ At the same time, participants identified barriers including limited environmental knowledge, competing priorities, convenience, and the absence of intentional sustainability programming within athletics. These findings suggest that student-athletes recognize both their potential influence and the need for greater environmental education before serving as effective advocates for sustainability.

Collectively, this study extends the sport sustainability literature by shifting attention from organizational sustainability initiatives to the individuals expected to enact those initiatives. Previous research has primarily examined organizational strategies, environmental

management practices, and sustainability programming within sport organizations,^{3,4,29} while comparatively little attention has been devoted to understanding how student-athletes conceptualize environmental sustainability. The present findings demonstrate that organizational commitment alone is unlikely to produce meaningful environmental engagement if participants lack environmental literacy or interpret sustainability through fundamentally different lenses. By integrating Social Learning Theory with sport sustainability scholarship, this study provides a framework for understanding how environmental sustainability is learned, interpreted, and reinforced within collegiate athletics. Ultimately, these findings suggest that the long-term success of sustainability initiatives depends not only on institutional commitment, but also on intentionally developing the environmental knowledge, attitudes, and behaviors of the student-athletes expected to bring those initiatives to life. While these findings reflect the experiences of student-athletes at a single NCAA Division I institution, they provide an important foundation for future qualitative and multi-institutional research examining environmental literacy and sustainability engagement across collegiate athletics.

Practical implications

The findings of this study have several practical implications for collegiate athletics. First, athletic departments should recognize that participation in sustainability initiatives does not necessarily reflect environmental literacy. Although participants routinely engaged in behaviors such as recycling, reducing waste, and maintaining clean athletic spaces, many initially conceptualized sustainability through athletic performance rather than environmental stewardship. This suggests that sustainability initiatives should be accompanied by intentional educational programming that clearly defines environmental sustainability and explains why these behaviors matter. Coaches, athletic administrators, and student-athlete development professionals are uniquely positioned to integrate sustainability education into existing leadership development, life skills programming, and team culture. Framing environmental sustainability through values already emphasized in athletics (e.g., accountability, discipline, teamwork, and responsibility) may increase student-athlete engagement while reinforcing environmentally responsible behaviors. Rather than introducing sustainability as an entirely new expectation, athletic departments may be more successful by embedding environmental education within the existing culture and routines of collegiate athletics.

Limitations and future research

Several limitations should be considered when interpreting these findings. First, many participants initially interpreted the term *sustainability* through athletic concepts such as consistency, discipline, and maintaining performance rather than environmental sustainability. Although interviewer clarification was necessary to ensure that subsequent interview questions addressed environmental sustainability, these initial interpretations became one of the study's most significant findings by illustrating how student-athletes naturally conceptualized sustainability. Future research may benefit from providing participants with a definition of environmental sustainability before data collection when the goal is to assess environmental literacy, or intentionally leaving the concept undefined to further explore how student-athletes naturally construct meaning around sustainability.

Second, participants were recruited from a single NCAA Division I Group of Five institution, limiting the transferability of the findings to other collegiate athletic contexts. Consistent with qualitative inquiry, however, the purpose of this study was not statistical generalization

but rather to provide an in-depth understanding of how student-athletes conceptualize environmental sustainability within a particular collegiate athletic environment. Future research should examine how student-athletes at Power Four institutions, Division II, Division III, and NAIA programs conceptualize environmental sustainability to better understand how institutional context influences environmental literacy and sustainability engagement.

Finally, several participants were enrolled in courses taught by one of the researchers. Although participation was voluntary, informed consent procedures emphasized confidentiality, and pseudonyms were used to protect participant identities, the existing faculty-student relationship may have influenced participants' responses. Future research should also investigate how structured sustainability education, leadership development initiatives, and athletic department programming influence student-athletes' environmental literacy and environmentally responsible behaviors over time.

Conclusion

As environmental sustainability continues to become a strategic priority within sport organizations, understanding how individuals conceptualize sustainability is essential to the success of institutional initiatives. This study demonstrates that while student-athletes value environmental responsibility and recognize their potential influence, many possess limited environmental literacy and initially understand sustainability through the culture and language of athletics rather than environmental stewardship. Guided by Social Learning Theory, these findings suggest that environmental sustainability is learned through everyday experiences, relationships, and organizational culture. By shifting attention from organizational sustainability initiatives to the perspectives of student-athletes, this study extends the sport sustainability literature and highlights the importance of intentionally developing environmental literacy alongside institutional sustainability efforts. Ultimately, the long-term success of sustainability initiatives within collegiate athletics depends not only on organizational commitment, but also on equipping student-athletes with the knowledge, understanding, and support necessary to become informed participants in environmental stewardship.

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Conflicts of interest

The author declares that there are no conflicts of interest.

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