Decolonizing Sport Psychology Through Artificial Intelligence: Towards an Africa-Centered Framework for Integrating Indigenous Knowledge into Athlete Mental Skills Training

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Abstract
The rapid emergence of artificial intelligence (AI) is transforming sport psychology by creating new possibilities for psychological assessment, personalized intervention, and the development of athletes' mental skills. However, because the knowledge embedded within AI systems is predominantly shaped by established epistemological traditions, it may inadequately represent African cultural experiences and Indigenous knowledge systems. This conceptual article examines how AI may contribute to the decolonization of sport psychology by integrating African Indigenous knowledge with scientifically grounded approaches to athlete mental-skills training. Drawing on literature on AI, epistemic justice, African Indigenous knowledge, and sport psychology, the article critically examines the opportunities and challenges of culturally responsive AI, including algorithmic bias, cultural appropriation, data sovereignty, intellectual property, commercialization, misrepresentation, and informed consent. It argues that decolonization should not entail rejecting established sport psychology, but instead developing an epistemically plural knowledge environment in which African knowledge traditions can participate meaningfully in psychological theory and practice. Consequently, the article proposes the African Indigenous AI Sport Psychology Framework (AIASPF), which integrates African Indigenous knowledge, scientific sport psychology, cultural validation, artificial intelligence, and human professional oversight to support culturally responsive mental-skills training. In this framework, AI functions as an epistemic technology that preserves, contextualizes, and disseminates culturally meaningful psychological knowledge while maintaining scientific and ethical safeguards. The article concludes that an Africa-centered approach to AI can broaden the epistemological foundations of sport psychology, strengthen cultural relevance and athlete autonomy, and contribute to a more inclusive and contextually grounded future for psychological practice in African sport.

Keywords: *artificial intelligence; African Indigenous knowledge; decolonization; epistemic justice; sport psychology; mental skills training; athlete well-being; cultural responsiveness; knowledge sovereignty.*

Introduction

Today, Artificial Intelligence (AI) pervades the production, organization, and use of knowledge in society, and sport is becoming a key area of this technological change. AI's impact on the psychological aspects of sporting performance is now extending beyond its usual uses in

performance analysis, talent identification, injury prediction, and training optimization to increasingly personalized approaches to assessment, feedback, behavioural monitoring, and mental-skills development. Technological change in sport creates many opportunities for sport psychology to collect information on psychological qualities linked to performance and develop more personalized interventions. In recent years, scholars have therefore started to explore the potential applications of AI in athlete development and sport psychological practice, and the potential dangers of algorithmic bias, the quality of the data, privacy, and the importance of human judgment and the psychological effects of overreliance on technology (Sartor et al., 2026). The role of AI in sport psychology is not merely about the efficacy of psychological interventions with intelligent technologies, but also about their significance in the context of sport. A more basic epistemological question arises: What kinds of psychological knowledge are these systems capturing; what kinds of experiences are embedded in their data sets; whose conceptions of psychological desiredness are being imbued in the AI system? The question takes on special significance when AI technologies, primarily developed in Africa's Western epistemological contexts, are introduced into African sporting environments.

It isn't just a "technology" issue; it is a "knowledge" issue. Although there is a significant scientific literature which has shaped modern sport psychology, much of the theory and methodology behind the key areas of interest – such as motivation, anxiety, imagery, self-talk, goal setting, confidence, resilience, and psychological skills training – has originated from Euro-American research traditions. If this knowledge is passed on uncritically to African contexts, it may fail to fully acknowledge culturally specific understandings of personhood, community, spirituality, social identity, resilience, and human flourishing. The issue speaks not only to the broader discussion of the interplay between AI and African knowledge systems, but also to the debate over AI's role in preserving African languages. However, modern scholarship suggests that AI can reinforce epistemological inequalities through the underrepresentation of African languages, Indigenous knowledge systems, and culturally located ways of knowing in the data, architectures, and assumptions behind intelligent systems. Aboderin (2025), for instance, situates AI within the broader context of epistemic justice and proposes a strategy that embraces African knowledge rather than reinforcing the hierarchical order of knowledge production that technological development has brought. Similar decolonial scholarship has condemned AI as a tool for epistemic domination, warning that while certain cultural practices can be universalized through AI tools, others remain invisible and are rendered unworthy of consideration. This has far-reaching implications for sport psychology: using AI in the psychological development of African athletes is not only about digitizing existing psychological practices, but also about opening opportunities for epistemic plurality (engaging scientifically established sport-psychological knowledge in critical, ethically guided dialogue with African Indigenous knowledge systems).

This becomes more significant in the Nigerian sporting context, where athletes face psychological challenges in social, economic, and cultural contexts that psychological models isolated from sport may not capture. The study of psychological factors in athlete development and performance has been increasingly recognized in Nigeria (as evidenced by the increasing number of sport-psychology scholarships in this country). Ochor and Amasiatu (2024), for example, identified three dimensions of psychological experiences resulting from competitive sport in Nigeria: competitive pressure, societal expectations, financial challenges, and mental-health-related concerns. Similarly, Ochor (2025) showed how physical activity, mental wellbeing, and anxiety among amateur sport participants are interrelated. Other researchers further support the relevance of intervention-oriented research in sport psychology in Nigeria; for instance, Ochor et al. (2024) investigated a four-week goal-setting training program on football passing skills among students at the Bayelsa State Sports Academy. Together, the

contributions in this volume show that psychological skills are central to the development of African athletes and an intrinsic part of good performance, well-being, and sustainable participation. However, the volume also raises a broader question about cultural responsiveness. While goal setting, imagery, self-talk, and coping strategies related to resilience and anxiety can have general psychological relevance, the significance of achievement, failure, collective responsibility, identity, motivation, and psychological strength is always socially and culturally specific. The problem for sport psychology in Africa is not only to provide more psychological interventions, but to find methods that locate the athlete in their psyche, where performance takes place in a specific cultural world.

The intersection of technological transformation, epistemic plurality, and the cultural positioning of athlete development situates the idea of decolonizing sport psychology through AI in an intellectual context. Decolonization in this sense does not involve a rejection of Western sport psychology and the elevation of any knowledge that is termed Indigenous; it does, however, mean that there is a need for a more pluralistic knowledge ecology where African epistemologies can be involved in the definition, interpretation, and application of psychological knowledge relevant to African athletes. AI can offer an unprecedented technological platform for documenting, preserving, contextualizing, and even integrating culturally significant narratives, Indigenous notions of psychological resilience, communal forms of identity, and systems of mentorship and locally situated understandings of psychological well-being into mental skills training in African languages. This, however, should be done with epistemic and ethical safeguards to prevent Indigenous knowledge from being extracted, distorted, decontextualized, and turned into goods. The goal should not be to impose a predominantly Western psychological framework on African sport through the introduction of African content, but to consider how this can be achieved by developing an Africa-centered and culturally responsive sport-psychology paradigm. In this context, the article proposes thinking about athletes' mental skills training as a space of epistemic justice, cultural relevance, and technological innovation in light of the convergence of AI and African indigenous knowledge. It therefore suggests a conceptual approach to integrating indigenous knowledge and science-informed psychology skills training through thoughtfully constructed AI systems, with the ultimate goal of developing a culturally responsive, epistemically inclusive, and contextually meaningful future for sport psychology in Africa.

Sport Psychology in the African Context

Sport psychology in Africa has evolved within the broader development of psychology in Africa, where academic theories and research methods, as well as professional practices, have often been influenced by traditions of knowledge brought to the continent from outside it. Sport psychology has thus grown in constructs such as motivation, anxiety, self–confidence, goal–setting, imagery, stress management, and PS training, many of which have shown practical relevance for African athletes. However, as these constructs become more widely used, it is important to ask whether psychological theories and constructs developed within one sociocultural environment are sufficiently applicable to explain a player's experiences when their cultural identity, relationships, goals, and understanding of performance differ from those of the constructs' origin. This question matters because psychological functioning is not divorced from social context. African scholarship in psychology has so far increasingly questioned the universal neutrality of Western psychological assumptions. In Nigerian sport psychology, the role of psychological skills training in developing sporting performance has been well established since Amasiatu (2002, 2013) worked on goal setting for Nigerian adolescents and mental imagery rehearsal for Nigerian soccer players. His focus on goal setting, as well as Amasiatu et al.'s contributions to psychological preparation in the context of

coaching, leadership, and athlete development, offers an important indigenous scholarly base for the understanding of psychological preparation that is not just an imported performance technology, but is an integral part of Nigerian sport development. In the same vein, Ochor and Amasiatu (2024) showed that competitive sport in Nigeria is situated in a complex psychosocial context, including societal expectations, financial constraints, competitiveness, and mental health concerns. Therefore, the development of sport psychology in Africa should be considered a process of adaptation, questioning, and even reconstruction of psychological knowledge by African Scholars as they engage with African athletes.

Nigerian literature also indicates that culturally situated sport psychology must consider the psychological aspects of sport and the environments in which they are used and expressed. Amasiatu's research on goal-setting and mental imagery is an example of research relevant to practice in the field. In contrast, Amasiatu's research on coaches' competencies and institutional processes, as well as coaches' professional development, highlights the importance of athlete development in relation to stakeholders' skills, knowledge, and practices. This branch of scholarship aligns with more recent Nigerian research indicating measurable performance-related outcomes from psychological interventions. For instance, Ochor et al. (2024) explored the impact of goal-setting intervention and its relationship with football passing competencies among students of the Bayelsa State Sports Academy, and Ochor and Amasiatu (2025) studied a goal-setting training program and its relationship with football shooting competencies among students of the Bayelsa State Sports Academy. Ochor and Amasiatu (2025) also studied the spotlight effect, performance anxiety, and self-confidence among University of Port Harcourt undergraduate athletes, highlighting how socially mediated psychological experiences can impact athletes' perception and performance. Ochor (2025) then showed how physical activity can support mental health and reduce anxiety in amateur sports. These contributions suggest that Nigerian sport psychology is entering a phase of applied knowledge, where psychological preparation and performance, well-being, social environment, and psychological regulation intersect. But culturally informed research does not necessarily answer the ontological question of whose concepts, assumptions, and knowledge systems are being taught as psychological skills. The next intellectual challenge, then, is not only to create more Nigerian applications of existing psychological theories, but to critically deconstruct how African systems of knowledge can help redefine psychological preparation, meaning, and practice.

Decolonizing Sport Psychology

The epistemological positions of knowledge production, validation, and dissemination in sport psychology therefore form a critical space that needs examination to decolonize sport psychology. Decolonization does not mean abandoning Western sport psychology, nor does it mean romanticizing African Indigenous knowledge without critical evaluation. Instead, it means setting the conditions for epistemic plurality, where different knowledge traditions can take part in critical dialogue and where African experiences are not just contexts in which theories are tested but are also used to construct them. Amasiatu's trajectory is illustrative in this context: his research on goal setting and mental imagery reflects adaptation of psychological-skills approaches to the population of Nigerian sport and education; his broad research with colleagues about coaching certification, leadership and sport development reflects the importance of building knowledge from the realities of Nigerian sport institutions (Amasiatu, 2002, 2013; Alla et al., 2015; Ezomoh et al., 2012). The contributions of scholars like Ikunla and his associates also fit within the broader movement toward a psychological, social, and culturally grounded view of sport in an African context. A decolonial sport psychology approach treats athletes as active contributors to developing psychological interventions, rather than passive recipients of universal psychological principles. It focuses on

how their cultural experiences, community relationships, languages, belief systems, and indigenous understandings of functioning can provide a basis for designing psychologically meaningful interventions. Epistemic justice goes beyond increasing the number of Africans involved in psychological research; it increases the authority of their experiences and knowledge in the questions being asked, the constructs being prioritized, the interpretation of psychological phenomena, and the design of interventions.

This is also a significant linkage between decolonial theory and artificial intelligence. Modern AI systems are trained on past collections of data and knowledge. They can thus reinforce rather than challenge current epistemological inequalities arising from the use of predominantly Western psychological literature. The challenge is not to digitize existing psychological knowledge, but to transform it into democratized and pluralized psychological knowledge. In sport psychology, this may include creating AI systems that communicate in African languages, culturally relevant stories, local perspectives on resilience and community, and research-based indigenous practices in psychological development. This project would continue the work initiated by sport-psychology scholars in the local context who have shown the viability of psychological skills in the Nigerian sporting context and raise a new epistemological question: can African knowledge be used to support the application of sport psychology, and also to the conceptualization of sport psychology? The solution must not be a one-way street of cultural adaptation; instead, it must be a collaborative process of knowledge production involving athletes, coaches, sport psychologists, researchers, and communities and legitimate holders of indigenous knowledge. When developed in a participatory way, AI might be seen as a tool for conserving and contextualizing African knowledge; when developed without such safeguards, AI may further contribute to the extraction and commodification of indigenous knowledge. Decolonizing sport psychology, however, must happen alongside a focus on scientific validity, cultural authority, ethical governance, and knowledge sovereignty.

African Indigenous Knowledge and Psychological Well-Being

African Indigenous knowledge systems provide a strong basis for this reconceptualization, as many African conceptions of human development and well-being are grounded in relationality, communality, and interconnectedness rather than an exclusive view of psychological functioning as an individual phenomenon. Knowledge is often shared through stories, proverbs, observation, mentor learning, conversations between generations and within the community, and community engagement. These practices can convey values related to perseverance, responsibility, cooperation, identity, emotional regulation, and collective resiliency. They have the potential to be very relevant to sport psychology, as athletic development is also relational – athletes develop in networks that include families, communities, institutions, coaches, and teammates. The relevance of Amasiatu's goal setting and mental imagery work on increasing sporting performance and other work with colleagues on coaching and leadership, which underscore the importance of the interpersonal and institutional contexts to athlete development, are relevant here (Amasiatu, 2013; Alla et al., 2015). From this lens, indigenous strategies are not alternatives to goal setting, imagery, self-talk, or other proven psychological skills; instead, they are culturally affirming lenses that help these skills be interpreted, communicated, and felt in a culturally relevant way. For instance, a culturally responsive goal-setting intervention could link an individual's achievement goal to a shared community goal and responsibility, and imagery and mental rehearsal could use culturally relevant symbols, stories, and environments. Similarly, resilience can be understood as an ability maintained through social relationships, mentorship, and belonging rather than as an individual's capacity to withstand adversity.

Indigenous knowledge cannot, however, be conceptualized in an idealized way; rather, it must be explored through systematic inquiry to understand its significance to athlete psychological well-being. African culture is diverse, and no single culture uniformly represents the experiences of all African athletes, nor is there a single "African psychology." Therefore, it is important to identify locally existing indigenous practices, interpret them critically, and empirically evaluate their psychological relevance before incorporating them into professional interventions. Their work is especially valuable because it draws on local scholarship frameworks developed by Nigerian scholars like Amasiatu and collaborators, helping contemporary researchers move beyond a notional approach of copying and pasting psychological techniques into their local context toward building contextually responsive athlete-development practices. The overarching challenge now is to link sport-psychology knowledge in Nigeria with the broader African discussion on epistemic justice and Indigenous knowledge. AI can help by organizing, translating, personalizing, and making culturally relevant psychological resources available across a range of sports settings. However, such systems must be built on community agreement, intellectual rights, cultural integrity, data freedom, and human professional supervision. Ultimately, the aim must not be to supplant or technologize traditional sport psychology, but to constructively engage in an epistemically plural sport-psychology ecosystem that can produce both scientific sport psychology and African Indigenous knowledge. This could serve as a conceptual framework for exploring the possibility of using AI to help sustain African psychological knowledge, support culturally responsive mental-skills training, and promote a more inclusive African sport psychology.

Artificial Intelligence as an Epistemic Technology

AI can be thought of not only as a tool for computation, but also as an epistemic technology, as a technological infrastructure that shapes the knowledge production process in terms of collecting, classifying, interpreting, translating, preserving, and circulating. This distinction is especially relevant in the African context, as the digitization of knowledge about Indigenous peoples is set to challenge their epistemic marginalization, cultural ownership, and knowledge sovereignty. AI-assisted natural-language processing, speech recognition, machine translation, knowledge graphs, and generative systems could offer new ways to document oral history, African languages, proverbs, narratives, community histories, and culturally informed knowledge about human behaviour that have traditionally been shared orally from one generation to the next. UNESCO (2021) stresses that AI development and use must account for cultural diversity, inclusion, and human rights. In recent years, African scholarship has increasingly called for engaging African knowledge systems in AI development, rather than reproducing epistemological hierarchies that treat African knowledge as data for technologies designed elsewhere. Aboderin (2025), for instance, discusses the epistemic justice of the relationship between AI and African knowledge and proposes that technology acknowledge and uphold African knowledge to mitigate inherited systems of African knowledge exclusion. In this view, AI could serve as a knowledge-preservation infrastructure that enables the digital documentation, indexing, and sharing of traditional knowledge across generations and geographies. But preservation should not be mixed up with unconstrained extraction. Indigenous knowledge often has collective rather than individual ownership, so ethical digitization must involve communities, informed consent, attribution, data sovereignty, and mechanisms to prevent decontextualization and/or commercialization. Thus, the epistemic value of AI will also rely on who has control of the knowledge, how the knowledge is stored in the AI, which interpretations are privileged, and for which purpose the resulting system will serve.

This epistemic power of AI is even more relevant in translation and cultural contextualization. African societies have great linguistic diversity, but many digital technologies remain largely geared toward languages with vast digital datasets, which can perpetuate language inequalities in the burgeoning knowledge economy. Using African languages to develop psychological and sport-science knowledge, thereby facilitating the dissemination of concepts into broader scientific and professional discourse using AI-related translation and natural language technologies, may be possible; for example, systematically collecting culturally relevant stories about perseverance, communal responsibility, courage, identity, and coping could enable researchers and practitioners to explore the potential psychological implications of these stories. However, translation is never a completely uncomplicated process. A culturally embedded concept can mean something different when represented by an apparently equivalent English psychological counterpart, and an AI system trained mainly on Western texts may map a Western category onto an African concept of personhood or well-being. The goal should thus be not only linguistic translation, but also cultural translation. In sport psychology, this separation provides a platform for creating AI systems that link existing psychological concepts to culturally embedded African concepts, assuming one is not a translation of the other. These systems could structure and package evidence-based knowledge from African psychology, sport science, and indigenous knowledge systems into user-friendly resources for athletes, coaches, and sport psychologists, while retaining information on the cultural context and sources of the knowledge. AI would then shift from a technology that processes knowledge to one that is part of the negotiation and circulation of knowledge, making systemic governance part and parcel of any Africa-centered sport-psychology framework.

AI and Athlete Mental Skills Training

Applying AI to athlete mental-skills training offers another avenue for linking technological innovation with culturally responsive sport psychology. Mental skills training has traditionally included psychological skills used to regulate cognition, emotion, and behaviour to maximize performance and psychological health, such as goal setting, imagery, self-talk, relaxation, attentional control, self-confidence building, and emotional regulation. Research has shown these methods are relevant in the Nigerian context. Amasiatu's study on goal setting and mental imagery laid the groundwork for psychological skills in Nigerian sport, while Ochor et al. (2024) found that a four-week goal-setting training program improved football passing abilities among students at the Bayelsa State Sports Academy. Ochor and Amasiatu (2025) then examined a goal-setting intervention and its relationship to football shooting competencies, and Ochor (2025) related physical activity to mental well-being and anxiety among amateur athletes. These studies support a critical proposition: psychological skills are not theoretical concepts, but practical skills that can be trained specifically to support an athlete's development. AI can carry this tradition forward by providing customized, ongoing mental-skills training that adapts to the individual. Feedback from an intelligent system could analyze the athlete's inputs, training history, and psychological responses to identify patterns and match them with an appropriate exercise in imagery, self-talk, goal setting, attentional control, or emotional regulation at an opportune time. AI has also recently been explored in sport-psychology research to understand how these intelligent technologies can affect psychological assessment and support for athletes, with the potential to have an even greater impact on sport in the future (Sartor et al., 2026). However, the central challenge for an African application is to ensure it does not merely adapt an intervention algorithm proven to work for athletes in the West, but also incorporates the athlete's culture, language, social context, and psychological resources relevant to the African context.

Taken individually, AI-powered apps in the four primary areas of mental-skills training demonstrate this potential. In imagery, AI could create specific mental rehearsal scenarios that are culturally and contextually relevant, providing athletes with familiar social contexts and personally meaningful symbols while maintaining professional oversight from practitioners. Conversational systems, by detecting this internal dialogue, could help athletes identify and practice positive internal communication related to performance, using either the athlete's own language or language that has cultural significance. For goal setting, AI can help athletes turn general aspirations into specific, measurable, and progressive process and performance goals, and add team/communal elements when relevant to the athlete. For anxiety management, intelligent systems could recognize anxiety patterns reported by athletes, coaching them through evidence-based breathing, attentional, or cognitive-regulation exercises. AI can offer scripted reflection sessions that link experiences of adversity to culturally specific stories of perseverance and community support, enhancing resilience. Likewise, with motivation, systems could provide a way for athletes to track intrinsic and extrinsic motivations, as well as culturally relevant sources of purpose, identity, and social responsibility. AI-powered journaling and conversational tools may help with emotional awareness, cognitive reframing, and reflective practice for emotional regulation. These applications, however, should be seen as supplements to, and not a substitute for, sport psychology practice by trained professionals. AI cannot assign cultural meaning to an Indigenous practice on its own, decide whether a psychological intervention is clinically or culturally appropriate, or take on the responsibility of complex human relationships. Furthermore, algorithmic bias, privacy issues, overreliance on technology, and misinterpretation of psychology in algorithms are major issues. The right model is, then, a human-AI collaboration in which skilled sport psychologists provide interpretive and ethical oversight, and AI supplements with computational support, accessibility, and personalization. In this context, what is unique about an Africa-centered approach is its ability to combine AI's adaptive capabilities with scientifically grounded psychological skills and culturally relevant, validated Indigenous knowledge from Africa, toward mental-skills training that is technologically advanced, evidence-based, and African.

Risks and Ethical Challenges

The challenges and opportunities that arise from the synergy of African Indigenous Knowledge and Artificial Intelligence (AI) in sport psychology are significant; however, several additional risks warrant consideration: ethical, epistemological, and sociocultural. One of the most fundamental issues is algorithmic bias, as systems learn from datasets that reflect the biases present in those sets and can therefore recognize, reproduce, and prioritize them. An apparently neutral AI system can perpetuate inequalities by analyzing and generating African experiences through a Western framework. When the representation of African athletes, African languages, Indigenous psychological concepts, and experiences of sport are underrepresented in AI, then the system can recreate inequalities. UNESCO (2021) therefore highlights fairness, non-discrimination, transparency, human oversight, and cultural diversity as key principles for responsible AI. African sport psychology could be subject to algorithmic bias, such as culturally inappropriate psychological assessments, recommendations based on individualistic orientations, or mental-skills interventions that focus on individualistic assumptions about motivation and achievement. This is related to cultural appropriation. Communities should not be taken apart, turned into machine-readable data, and sold without proper acknowledgment, involvement, and consent, including through Indigenous proverbs, stories, rituals, healing methods, etc., or communal knowledge. The digitization of Indigenous knowledge raises data sovereignty and intellectual property questions, especially when the knowledge is collectively owned and not held by a single person. The struggle for epistemic justice is important;

Aboderin (2025) argues for the need to consider AI and African knowledge systems in this context, and UNESCO (2021) notes that during AI development, human dignity, cultural diversity, and community rights should be protected. Therefore, any African Indigenous knowledge embedded in sport-psychology technologies should be supported by well-defined, transparent origins; culturally appropriate consent processes; attribution; and community engagement methods for access and use. Another moral dilemma concerns commercialization and misrepresentation. The cultural incorporation of psychological information into commercial AI products might lead to a situation where the knowledge of the communities from which it came becomes technologically closed off, with little benefit to those communities. This opens the door to another form of epistemic extraction; whereby African knowledge is extracted as a source for technological innovation. Still, African communities are not active participants in representing and monetizing that knowledge. Misrepresentation is also a concern, as Indigenous practices are not just techniques but must be understood in the context of language, history, social relations, and culture. Deriving an apparently culturally relevant intervention from a proverb, narrative, or communal practice in a different context can distort the intervention's meaning. We need to consult not only individual users of an AI application, but also the communities and legitimate knowledge holders of collectively held knowledge. Transparency, explainability, accountability, and human oversight matter more when AI-generated psychological recommendations might affect athletes' psychological well-being or increase the likelihood of injury. AI must be seen as a psychological assistant, not a psychological judge. Qualified sport psychs should remain responsible for interpreting psychological information, ensuring they assess the appropriate level of intervention and do not recommend anything that could harm an athlete. If a proposed integration of African Indigenous knowledge and AI is to promote epistemic justice, then such measures are necessary to prevent the emergence of new knowledge marginalization that is similar to the forms believed to have been addressed by decolonization.

The African Indigenous AI Sport Psychology Framework

Based on the above arguments, the current article proposes the African Indigenous AI Sport Psychology Framework (AIASPF) as an AI conceptual model that integrates African Indigenous knowledge, scientifically proven sport psychology concepts, and a culturally validated indigenous knowledge base into athletes' mental-skills training. This is based on the premise that technically sophisticated technology is not necessarily 'innovative' – true innovation is a technology that can adapt to the cultural, psychological and social characteristics of the peoples for whom it was developed. Clearly, the AIASPF views the process of athlete psychological development as an interplay of the four elements of African Indigenous Knowledge, Scientific Sport Psychology, Artificial Intelligence, Cultural Context, and Human Professional Oversight. This model does not suggest a dichotomy between Indigenous knowledge and sport psychology knowledge; rather, it views them as engaging in a dialogue in which evidence-based psychological principles are thoughtfully considered, adjusted with culturally specific African knowledge, and incorporated into participatory processes. The end goal is not to replace, but to create an epistemically plural and culturally responsive ecosystem of mental skills that includes, but is not limited to, established sport psychology.

Proposed African Indigenous AI Sport Psychology Framework

AFRICAN INDIGENOUS KNOWLEDGE SYSTEMS

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Proverbs • Storytelling • Communality • Mentorship • Collective Identity • Indigenous Resilience

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CULTURAL VALIDATION & COMMUNITY PARTICIPATION

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Contextualisation • Consent • Knowledge Ownership • Linguistic Relevance • Cultural Authenticity

↓

SCIENTIFIC SPORT PSYCHOLOGY

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Imagery • Self-Talk • Goal Setting • Motivation • Anxiety Management • Resilience • Emotional Regulation

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ARTIFICIAL INTELLIGENCE LAYER

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Knowledge Organisation • Translation • Personalisation • Conversational Support • Pattern Recognition • Adaptive Feedback

↓

HUMAN SPORT-PSYCHOLOGY OVERSIGHT

↓

Assessment • Interpretation • Ethical Judgement • Intervention • Monitoring

↓

ATHLETE PSYCHOLOGICAL DEVELOPMENT

↓

Performance • Well-Being • Resilience • Cultural Identity • Psychological Autonomy

These seven domains are interrelated and form the framework. The first is African Indigenous Knowledge Systems, the cultural epistemological basis that provides culturally situated resilience, collective identity, communality, storytelling, and proverbs as possible sources of psychological knowledge. The second, Cultural Validation and Community Participation, acts as a protective layer, as Indigenous knowledge is not added to AI systems without appropriate contextual interpretation, consent, and participation. The third, Scientific Sport Psychology, supplies the empirical groundwork with accepted psychological constructs and evidence-based interventions. This matter because the framework does not equate cultural relevance with empirical validity; instead, culturally based practices must be examined appropriately in the scholarly field. The fourth, AI Layer, provides the technological backbone that enables knowledge organization, translation, personalized interventions, and adaptive feedback. Human Sport-Psychology Oversight (5) helps avoid technological determinism by preserving professionals' control over assessment, interpretation, and intervention. Athlete Psychological Development is the system's immediate output and refers to psychological skills, well-being, resilience, confidence, emotional regulation, and performance. Ethical governance also exists in all 6 domains and is exercised on an ongoing basis with respect to data sovereignty, privacy, IP, transparency, cultural authenticity, and athlete autonomy.

The uniqueness of the AIASPF is conceptualizing AI as epistemic, rather than only a delivery technology. In sport, traditional uses of AI often focus on gathering physiological or behavioral data before producing performance recommendations. The AIASPF extends this thought by asking whether the knowledge used to make sense of psychological experiences is culturally

representative. For instance, an imagery program for an athlete may include language the athlete enjoys, culturally relevant images, and personally relevant performances. A goal-setting system can include both personal and cultural performance and responsibility. An AI-assisted resilience intervention could include stories of community resilience. However, these would need to be suitably validated, and the athlete and sport psychologist would have the final say on their relevance. Likewise, conversational AI could facilitate reflective self-talk and emotional management, with clear delineation between the role of technology and that of psychological professionals. In both scenarios, technology is not the sole determinant of culturally appropriate knowledge; instead, culture, science, community engagement, athlete voices, and professional knowledge all limit and guide the use of AI. This makes the framework suitable for sport psychology in Africa because it is grounded in knowledge sovereignty and cultural responsiveness.

Implications for African Sport Psychology

The proposed framework has important implications for sport-psychology research in Africa. Researchers must move beyond assessing whether existing psychological interventions work for African athletes and focus more on the cultural mechanisms through which they work. This calls for greater awareness of the cultural equivalence of psychological constructs, the validity of assessment tools, African-language psychological terms, and Indigenous motivations, conceptions of resilience, identity, and wellbeing. Future studies could use mixed-method, participatory, and community-based methods first to determine which diverse Indigenous psychological practices athletes and communities find meaningful, then systematically investigate their psychological properties to explore how they could be integrated into existing mental-skills interventions. AI also offers researchers opportunities to build culturally diverse datasets and resources in African languages in the African context, but with strict ethical constraints on privacy, informed consent, data ownership, and knowledge sovereignty. Researchers must avoid treating AI results as the sole source of evidence. While AI can aid hypothesis generation, pattern recognition, and knowledge organization, claims of psychological efficacy must be based on relevant empirical studies. Hence, the new paradigm of AI–sport-psychology research needs to foster technological literacy, methodological rigor, and cultural reflexivity. The framework suggests a shift in which sport psychologists and coaches move from delivering culturally generic interventions to a culturally responsive approach to psychological practice. AI could be used alongside traditional psychological-skills training to deliver personalized instruction to athletes on goal setting, imagery, self-talk, attentional control, anxiety management, resilience, and emotional regulation, all of which have been shown to enhance psychological skills.AI may be used to complement, rather than replace, traditional psychological-skills training by delivering personalized instruction on goal setting, imagery, self-talk, attentional control, anxiety management, resilience, and emotional regulation—all skills that have been demonstrated to improve psychological skills. Coaches could also apply culturally relevant, AI-supported resources to reinforce psychological skills in training and competition. However, practitioners need to develop new kinds of AI literacy and cultural competence to recognize algorithmic errors, challenge culturally inappropriate recommendations, and maintain professional boundaries.

Sportspersons should be involved in decisions about whether and how to use AI in their mental training. This is especially relevant because the information is sensitive; supporting psychologist and athlete autonomy and informed consent must be at the heart of the situation. The framework proposes policies for sport organizations on procurement, psychological data management, the use of Indigenous knowledge, cyber security, professional accountability, and algorithmic transparency. Organizations should not implement AI systems because they are

technologically advanced, but because they are culturally valid and psychologically safe, transparent, and proven useful for athletes.

The policy-level implications extend beyond individual sport organizations to national sport development and knowledge policy. African sport authorities, universities, professional sport bodies, and technology regulators may come together to create guidelines for culturally responsive AI in sport psychology, covering psychological data protection, governance of traditional knowledge of indigenous peoples, ethical AI development, and human oversight of the technology. Investing in AI developed in African languages would also reduce reliance on AI trained primarily on other peoples' languages, cultures, and traditions. Investing in locally collected datasets and African sport-psychology research would also help mitigate overreliance on technology predominantly built on external populations and knowledge systems. Integrating 'Indigenous psychology and digital ethics', as well as incorporating 'AI literacy' into sport-psychology education, could help future sport-psychology practitioners work at the intersection of psychology, technology, and culture.

Finally, the proposed framework represents a shift from African sport psychology as an 'electronic consumer' of imported technological innovations to a potential 'co-producer' of the knowledge architecture of future intelligent sport systems. The key takeaway from the framework is that the future of AI in African sport psychology should not be judged by technological capabilities developed outside Africa. Instead, African researchers, practitioners, athletes, coaches, communities, and policymakers should define the knowledge, values, and cultural principles the intelligent system is meant to capture and uphold. In this regard, AI can be a tool that not only enhances athletic performance but can also contribute to a more inclusive and culturally rich sport-psychology landscape in Africa and to athlete welfare. In this way, AI can not only enhance athletic performance but also catalyze a more inclusive and culturally rich sport-psychology landscape in Africa and support athlete welfare.

Conclusion

African sport psychology should not be seen only as a technological tool for automating assessment or improving athletic performance, but also as an epistemic tool to reimagine whose knowledge will support psychological practice. AI can complement the preservation, contextualization, and transmission of culturally relevant approaches to mental-skills development if it is operated ethically and grounded in scientifically validated sport-psychology concepts and principles rooted in the expertise of the athletes themselves. The proposed African Indigenous AI Sport Psychology Framework thus calls for a paradigm shift from incorporating technologies to epistemic co-creation, where African athletes and knowledge traditions are not passive recipients of imported psychological technologies but active agents in their design and use. This orientation has the potential to reinforce cultural relevance, cultural knowledge sovereignty, psychological well-being, and place African sport psychology in a stronger position to influence the future of the sport but also the wider sport for all conversation of fair and culturally intelligent AI.

Suggestions

1. African sport organizations, universities, and technology developers need to work together to create AI-based mental-skills platforms that incorporate validated African cultural contexts, languages, narratives, and Indigenous knowledge alongside the principles of sport psychology. These systems should be culturally appropriate, rather than merely copying technologies developed for populations outside Africa.
2. Sport organizations and decision-makers should establish protocols for collecting,

digitizing, storing, and using Indigenous knowledge and athletes' psychological data. These protocols should include informed consent, privacy, data sovereignty, community ownership, attribution, and protection from the commercialization and/or cultural appropriation of Indigenous knowledge.

3. Professional sport-psychology education and ongoing education at universities and professional sport psychology associations should include AI literacy and digital ethics, Indigenous psychology and culturally responsive practice. AI-generated recommendations should not replace the skills of sport psychologists and coaches in evaluating them, and they should be used with a critical lens.
4. Before integrating AI-supported interventions, researchers should systematically study culturally situated practices (such as storytelling, proverbs, communal mentorship, collective identity, and culturally grounded resilience practices) and their relevance and effectiveness from a psychological perspective. Participatory, mixed-methods research with athletes, coaches, communities, and Indigenous knowledge holders should be a priority to ensure scientific rigor and cultural validity.
5. Collaborative platforms at the intersection of AI, Indigenous knowledge, and sport psychology should be developed among governments, universities, sport federations, professional associations, and technology organizations. These networks could facilitate the development of African-language datasets, locally produced research, ethical considerations, interdisciplinary innovation and knowledge sharing, and empower Africa's scholars and athletes to be more than just consumers of AI-enabled sport-psychology technologies.

References

Aboderin, O. S. (2025). Decolonizing knowledge with artificial intelligence (AI): Philosophical perspectives on epistemic justice in African universities. *Journal of Educational Studies, 2025*(1), 8–27. https://doi.org/10.59915/jes.2025.si1.1

Amasiatu, A. N. (2013). Mental imagery rehearsal as a psychological technique to enhancing sports performance. *Educational Research International, 1*(2), 69–77.

Ochor, D. C. (2025). The role of physical activity in enhancing mental well-being and reducing anxiety among amateur athletes: A sport psychology perspective. *International Journal of Social Science Archives, 8*(1), 14–26.

Ochor, D. C., & Amasiatu, A. N. (2024). Psychological analysis of problems in competitive sports in Nigeria. *African Journal of Human Kinetics, Recreation and Health Studies, 2*(2), 61–81. https://doi.org/10.31920/2976-7784/2023/v2n2a4

Ochor, D. C., & Amasiatu, A. N. (2025). The impact of goal-setting training intervention program on football shooting competencies among students at the Bayelsa State Sports Academy. *World Journal of Sport Research, 3*(1), 8–14. https://doi.org/10.61784/wjsr3006

Ochor, D. C., Amasiatu, A. N., Elendu, I. C., & John, U. B. (2024). The effect of four weeks goal-setting training programme on football passing competencies among students in Bayelsa State Sports Academy. *International Journal of Research and Innovation in Applied Science, 9*(7), 521–526. https://doi.org/10.51584/IJRIAS.2024.907045

Okorie, O., & Amasiatu, A. N. (2026). The role of psychological skills training in optimizing athletic performance in Nigeria. *Global Journal of Sport and Exercise Science, 2*(1). https://doi.org/10.63750/ssw3y369

Sartor, F., Rosito, S. A., Raimo, M., Beato, M., & Bertollo, M. (2026). Artificial intelligence in sport psychology: Implications for the identification and development of talent. *Psychology of Sport and Exercise, 82*, 102977. https://doi.org/10.1016/j.psychsport.2025.102977

UNESCO. (2021). *Recommendation on the ethics of artificial intelligence*. UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000381137