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Journal of Sports Sciences

ISSN: 0264-0414 (Print) 1466-447X (Online) Journal homepage: www.tandfonline.com/journals/rjsp20

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To cite this article: Nathan E. Reeves , Tom Comyns , Hannah Connon , Nicholas Gant , Kate Pumpa , Andrew Scott & Kade Davison (03 Aug 2026): An audit of professional standards for sport science, Journal of Sports Sciences, DOI: 10.1080/02640414.2026.2713350

To link to this article: https://doi.org/10.1080/02640414.2026.2713350

Published online: 03 Aug 2026.

JOURNAL OF SPORTS SCIENCES
https://doi.org/10.1080/02640414.2026.2713350

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SPORTS PERFORMANCE

An audit of professional standards for sport science

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ABSTRACT

Sport is a global industry with athletes supported by sport scientists who have gained the necessary education and experience. However, there is still great variety in the training and career development opportunities for novice and trainee sport scientists to develop their practice. The objective of this study is to audit current sports science professional standards worldwide. A network approach and modified scoping review protocol were used to guide a global search of existing national professional standards for inclusion in the audit. The professional standards from the included associations were analysed together to indicate the breadth and depth of their coverage, using thematic analyses and summary statistics. Professional standards from five countries were identified as meeting the criteria for inclusion in the audit. The standards from one country were selected as the basis for the standards audit. Five composite standard domains were created, with 37 related elements being included for comparison. Common elements exist across the audited sport science standards and there is inconsistent coverage of some elements. The findings are important for understanding the skill and competency expectations for sport science practice. This audit confirmed there is sufficient breadth, depth and international coverage to produce internationally representative professional standards in sport science.

ARTICLE HISTORY
Received 21 October 2025
Accepted 7 July 2026

KEYWORDS
Sports science; professional standards; sports science practice; international

Introduction

The sport science profession has experienced significant growth in recent years, driven by an increasing recognition of the importance of scientific principles in enhancing athletic performance and overall physical fitness (Bartlett & Drust, 2021; Stevens et al., 2018; Zhong et al., 2024). The field of sport science encompasses a wide range of specialisations, including physiology, strength and conditioning, biomechanics, motor control, skill acquisition, nutrition, performance analysis, and psychology (Bishop, 2008). As sport organisations continue to prioritise the health and performance of their athletes, the demand for qualified sport scientists has surged. These professionals are now integral to the development and implementation of training programs, injury prevention strategies, and rehabilitation protocols (Gleason et al., 2024). Additionally, the ability to conduct research and manage data has become crucial in this data-driven era, further highlighting the diverse skill set required in this profession. The rapidly growing body of research and increased emphasis on evidence-based practices in sport has solidified the role of sport scientists, making it a promising and expanding career path (Suchomel & McMahon, 2024).

As the sport science discipline continues to evolve, the establishment and adherence to professional standards have become increasingly critical (Bishop, 2008; Bruce et al., 2022; Haff, 2010). Professional standards ensure that practitioners maintain a high level of competence, ethical behaviour, and commitment to continuous improvement (professional development), ultimately enhancing training, performance, and the quality of care provided to athletes (N. Reeves & Miles, 2023). Professional standards in sport science encompass a wide range of areas, including education, certification/accreditation, job tasks requirements and ethical guidelines. The standards of different countries are seen to be leveraged in a number of ways to underpin the practice of a sport scientist. The Sport and Exercise Science New Zealand (SESNZ) Accredited Exercise Science and Sport Practitioner Standards outline the requisite qualifications and professional practice

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experience required for sport science accreditation eligibility (Zealand SaESN, 2019). The Chartered Association of Sport and Exercise Science (CASES) and Exercise & Sport Science Australia (ESSA) accreditation guidelines outline the requirements necessary for accreditation as a Sport and Exercise Scientist (TCAoSae, 2025) in the United Kingdom, and Level 1 or 2 Sport Scientist in Australia respectively (Australia ESS [ESS], 2019). The National Strength and Conditioning Association (NSCA) Certified Performance and Sport Scientist Job Task Analysis outlines and skills and knowledge required to work in the role (Association NSaC, 2025). The Canadian Society of Exercise Physiology (CSEP) High Performance Specialization Core Competencies outlines the code of conduct in sport science that emphasises the importance of integrity, respect and responsibility in all professional interactions (Physiology CSfE, 2019).

Although establishing entry-level thresholds for sport science practice – a generic set of capabilities required across applied practice, excluding specialist expertise (e.g. sport physiology, sport psychology, sport biomechanics, performance analysis, strength and conditioning, performance nutrition, skill acquisition and kinathropometry) – is both common and seemingly a shared opportunity, global harmonization of competency standards across professional and accrediting bodies has not been achieved. Furthermore, the authors are not aware of any previous research that has identified the common features or variations in professional standards that underpin the practice of sport science across different countries. In 2020, the leadership of the American College of Sports Medicine (ACSM), CASES (formerly known as BASES), CSEP, ESSA, and SESNZ formed an international alliance to advance the practice of sport and exercise sciences (N. Reeves et al., 2022). The International Confederation of Sport and Exercise Science Practice (ICSESP) embraced a vision to positively impact individuals, communities, and countries by promoting the international practice of sport and exercise sciences. As part of its strategic goals, the ICSESP committed to establishing and adopting global professional standards in sport science. In May 2024, an ICSESP established steering committee began the task of developing these international standards. The methodology previously used by the ICSESP to develop the International Clinical Exercise Physiology Professional Standards (Practice ICoSaES, 2024; N. E. Reeves et al., 2023) informed the framework for this project.

The objective of this study was to identify and audit current entry-level professional standards from countries around the world by undertaking a comprehensive examination of the various standards and guidelines that govern the practice of sport science in different regions. By doing so, the study aimed to understand the similarities and differences in professional standards globally, and to identify best practices that can be adopted universally to enhance athlete care, optimize training quality, and improve performance outcomes. The audit findings from this study could inform harmonised international standards for sport science practitioners, enabling more countries to establish their own professional standards and helping the profession meet emerging workforce needs.

Methods

Overview

Due to a lack of an accepted protocol suited to the specific aims of this study, and to optimise rigour and minimise bias, this document has been modelled on the established approach for conducting a scoping review as described by Peters et al. (2020) and the professional standards audit protocol as described by N. E. Reeves et al., (2023).

A project steering committee was established to provide governance and strategic oversight of the environmental scan and audit. All committee members (n = 7) had experience in the field of sports science education, practice, and professional standards. Steering committee members represent Australia (n = 2, NR and KD), Canada (n = 1, HC), Ireland (n = 2, TC and KP), New Zealand (n = 1, NG), and United Kingdom (n = 1, AS), all countries where the practice of sport science is well established and there is a strong national agenda for establishing and maintaining defined professional standards for sport scientists. Two project leads were appointed from the steering committee, one with experience in developing international standards (NR) and the other extensive experience in sports science education and practice (TC). They provided leadership of the committee and operational guidance for each stage of the project.

Protocol registration

This document audit protocol has been registered a priori on an open-access research platform (Open Science Framework): https://osf.io/b3dys/?view_only=cd4ae7c049a34af1a8bc0471a6f61a2f).

Research question

In this document audit, we aim to report on the similarities and differences that exist across the professional standards that define the sport science criteria across the

5 countries identified as having existing professional standards (Australia, Canada, New Zealand, the United Kingdom, and the United States).

Sample size estimation and justification (population, concept and context)

The equivalent of a population sample for this process is the selection of the national associations' respective professional standards for inclusion. This was determined to be the five nations established, by way of an international environmental scan, to have existing accreditation or certification systems and frameworks for entry-level sport science: Australia, Canada, New Zealand, the United Kingdom, and the United States. The concept is the description of standards for determining an individual's suitability to be recognized as an entry-level sport scientist. The context is national accreditation or certification programs to qualify entry-level sport scientists in each respective country.

Search strategy and evidence screening

The search strategy involved two complementary approaches. First, members of the project steering committee undertook an environmental scan by directly contacting colleagues and professional bodies in as many countries as possible (n = 26) to identify where formal professional standards for sports science existed. This included outreach to national accrediting organisations, sports associations, not-for-profit associations, and private sector providers. Second, the steering committee systematically reviewed publicly available documentation from known national professional associations. Through this process, nine sets of standards were identified worldwide. Following application of the inclusion criteria (Table 1), five sets of professional standards were retained for audit (Table 2).

Data extraction

Three steering committee members (NR, TC and NG), each from different countries, assumed the role of independent reviewers and undertook the data extraction. All statements of professional standards deemed to define the criteria for accreditation or certification in each respective country were extracted from each set of professional standards and entered into a purpose-designed Microsoft Excel spreadsheet (Microsoft, Redmond, Washington).

Data analysis and presentation

To structure the comparison, the professional standards from one organisation, the CSEP, were used as a base framework for cross-comparison in a Microsoft Excel spreadsheet. The reason for using the CSEP standards as the base framework is that the CSEP High Performance Specialization Core Competencies (2019 version) (Physiology CSfE, 2019) were the most recently developed or updated version of professional competencies for a sport scientist in this context. Additionally, following such a methodology for selecting a base framework proved effective in the audit of clinical exercise physiology competency standards (N. Reeves et al., 2023). Individual items from each set of professional

Table 1. Inclusion criteria for entry-level sport science standards in the audit.

Criteria 1: Professional Standard	Criteria 2: Entry Level	Criteria 3: Inclusion of Core Competencies
Professional standards are the minimal knowledge, skills and competencies that an individual should possess to effectively enter into the workforce as an autonomous practitioner. The standards provide guidance as to the types of activities and education an individual should possess to ensure effective and safe practice.	Entry-level sport science standards are: acquired via university level postgraduate study; representative of the broad range of standards that anybody working in sport/performance science should satisfy; should have a clear differentiation from exercise science, clinical exercise physiology, biomechanics (may include some data analytics and ability to handle data). Entry-level sport science standards are not: specialisations (e.g. S&C); scopes of practice.	Occupational performance competencies are to be captured in the audit stage of the project if they form part of a set of audited SS standards.

Table 2. Sport science professional standards included in the audit.

	Australia (ESSA)	Canada (CSEP)	New Zealand (SESNZ)	United Kingdom (CASES)	United States (NSCA)
Sport Science accreditation standards	ESSA Accredited Sport Scientist and Accredited High Performance Manager Professional Standards (2019)	CSEP High Performance Specialization (2019)	Accredited Exercise Science and Sport Practitioner (AESSP)	CASES Accredited Sport and Exercise Scientist Competency Profile	CPSS Job Tasks Analysis

CASES = The Chartered Association of Sport and Exercise Sciences; CSEP = Canadian Society for Exercise Physiology; ESSA = Exercise & Sport Science Australia; NSCA = National Strength and Conditioning Association.

standards were then entered into the spreadsheet against the corresponding topic (standard domain) in the base framework and thus identified as consistent with the respective item, partially consistent, or identified as a new item not contained in the base framework. Additional items identified from other associations' standards not present in one or more of the already entered professional standards were then added under the relevant standard domain heading for comparison. This continued in an iterative manner until all individual items from all standards had been entered and all levels of alignment or lack of alignment identified.

All three primary reviewers (NR, TC and NG) have extensive experience of the development and/or implementation of professional standards across the broad exercise and sport science fields, specifically in sport science. To ensure the interpretation of standards was accurate across all countries, additional secondary independent reviewers with content- and context-specific expertise for each of the sets of standards were recruited from each country. The credentials of the secondary reviewers were as follows: CASES, CASES Fellow; CSEP, Associate Professor of Teaching Health and Exercise Sciences; NSCA, NSCA Exam Development Manager; ESSA, ESSA Regulations Manager; SESNZ, SESNZ Director. These secondary independent reviewers reassessed the application of their respective standards for accuracy and provided an explanation of any differences in opinion. Any discrepancies in extraction and/or interpretation between the three primary reviewers or the primary and secondary reviewers were resolved through discussion (either verbal or written) to their mutual satisfaction.

Against each criterion within the extraction framework where a column represented each national association, a note was made (tick, cross or both) to represent whether the item was included (tick), not included (cross), or partial (both) in the respective national standard document. This was supplemented with any relevant comments to contextualize the decision by the reviewer. Thus, the presentation of data for analysis and reporting was the collective decision of the reviewers with any relevant comments and then inclusive of the outcomes of each national standard's expert reviewer. The steering committee members, who were not a reviewer, were provided an opportunity to review the findings of the audit and provide comment.

The data are presented as a descriptive summary, alongside the median and interquartile ranges for the elements that were produced, comparing the standards documents from each organization. This was supplemented with a narrative synthesis that explored trends and patterns across the five sets of professional standards.

Equity, diversity, and inclusion statement

This project sought to identify professional standards in sport science across diverse geographical and organisational contexts. The steering committee included members from multiple continents and professional backgrounds, and the search strategy deliberately extended beyond English-language, high-income countries to capture standards from a wide range of regions and settings. While only five sets of national standards ultimately met the inclusion criteria for analysis, the committee actively contacted colleagues worldwide to ensure that underrepresented and emerging professional communities were considered. This approach reflects a commitment from the ICSESP to equity, diversity, and inclusion in the development of internationally relevant sport science standards.

Results

Five standard domains and 20 discrete elements were identified from the Canadian standards to create the base framework for analysis, and a further 17 discrete elements were added from the other sets of standards, resulting in a total of 37 elements for comparison. The median number of standards that covered each element across the 37 elements was 3 with an interquartile range (IQR) of 3. The standard domain of *sport and occupational performance assessment* had the highest level of agreement with a median of 4 and IQR of 3. The standard domains of *sport and occupational biomechanics, physiology and performance psychology* and *sport and occupational performance exercise design & delivery* also had high agreement, both with medians of 3 and IQR of 0 and 2 respectively. Figure 1 shows the standard domains and elements within each domain, and the colour coding shows the level of agreement across sets of standards for each element.

The level of coverage of the elements varied greatly across the sets of standards. The supplemental online file International Sport Science Professional Standards Project – Audit Results (accessible via https://icsesp.global/wp-content/uploads/2025/03/ICSESP-SS-Audit-Results.pdf) shows the coverage of each element by each set of standards. Considering both partial and full coverage for each element, the Canadian and New Zealand standards showed the highest coverage with 84% and 81% respectively. The professional standards from United Kingdom, United States and Australia respectively covered 57%, 62% and 65% of the identified elements. As noted above, coverage was more consistent in the assessment standard domain with 4 out of 5 sets of standards covering 100% of the elements in this domain. The exercise design & delivery, and biomechanics, physiology and performance psychology domain

Standard Domain	Agreement	Element
Sport and Occupational Biomechanics, Physiology and Performance Psychology	4 of 5	Demonstrate knowledge of sport and occupational performance biomechanics including basic biomechanical principles applied to human movement. Demonstrate knowledge of unique psychological issues/strategies pertaining to athletes or exercising individuals and the impact on health and performance. Knowledge of the basic factors that can impact sport and occupational performance, such as sleep and stress on performance and injury risk.
	3 of 5	Demonstrate knowledge of sport and occupational physiology including: metabolic demands; rate and capacity of the three energy systems; determinants of VO2max; anaerobic threshold and how it can be used to guide exercise prescription; steps associated with muscular contraction; causes of fatigue; and physiological changes following training.
	2 of 5	Demonstrate knowledge of environmental physiological considerations including: response in extreme conditions; heat; cold; altitude; and responses of occupational workers to PPE.
Sport and Occupational Performance Assessment	5 of 5	Demonstrate knowledge of components of, and when to apply, frequently used sport and occupational specific testing protocols for: agility; speed; flexibility; aerobic; muscular strength, power and endurance; anaerobic power and capacity; and occupational fitness testing. Demonstrate knowledge of how to perform a 'gap analysis' to guide an individual training plan. Demonstrate knowledge of monitoring of internal and external loads, and heart rate and power output training zones relevant to sport or occupational performance. Analyses the demands of the sport and the capabilities of the athlete. Ability to relate own findings to the wider field and previous research to aid with interpretation of assessments.
	2 of 5	Demonstrate knowledge of body composition for exercising individuals relevant to sport or occupational performance.
Sport and Occupational Performance Exercise Design & Delivery	5 of 5	Demonstrate knowledge of development and administration of training program for a performance-based individual including: evidence-based guidelines for warm up and cool downs; high intensity interval training for anaerobic and aerobic adaptations; plyometric progressions; work:rest ratios; resistance training; aerobic training; flexibility programs; implications of concurrent training; training Delivers or recommends evidence-based interventions to achieve the performance goals of service users in sports settings.
	4 of 5	Demonstrate knowledge of training principles including: progressive overload; specificity; variety and periodization; individualization; rest and recovery; and reversibility. Demonstrate knowledge of advanced periodization and prescription across the lifespan including: volume and intensity; linear, undulating and block; polarized training; integrated multifactorial approach; annual training plan; and quadennial plan. Evaluates critically the efficacy of implemented interventions.
	3 of 5	Demonstrate knowledge of training for aerobic fitness, resistance, flexibility, anaerobic fitness, and agility and speed. Translates applicable investigation and research information to stakeholders.
Energy Intake for Sport and Occupational Performance	3 of 5	Demonstrate knowledge of applied sport and exercise nutrition including: basic nutrition for individuals engaged in exercise; nutritional requirements for performance during training and competition; common supplements; and the role of energy availability and the implications of relative energy deficiency.
	2 of 5	Apply to communicate with athletes and general population to increase their understanding of nutrition and well-being.
	1 of 5	Ability to identify the need for behaviour change and nutritional education.
Professional and Ethical Practice	5 of 5	Knowledge that an integrated high-performance team involves many professionals (multidisciplinary) working together with the goal to enhance athletic performance. Applies appropriate communication techniques in interactions with service users, colleagues and other health professionals. Proposes information to support service users to make informed decisions.
	4 of 5	Understand usefulness and limitations of new and emerging technology and data including: reliability, validity and practically. Demonstrate an understanding of the ethical boundaries of the Sports Science profession and exhibits duty of care towards, and prioritisation of the interests of, service users in the delivery of Sports Science services. Demonstrate and understands the use of legislated health and safety requirements in both laboratory and field settings. Practises as a Sports Scientist in a culturally sensitive, inclusive and non-discriminatory manner.
	3 of 5	Understand monitoring of athlete performance and training including: knowledge of acute:chronic load and injury risk; knowledge of the concepts of general adaptation syndrome, overtraining, overreaching and function overreaching; knowledge of common injuries in exercising individuals; and the importance of having an emergency action plan. Demonstrate the use of testing procedures, calibration procedures and basic equipment maintenance in sports settings. Applies confidentiality and privacy legislation to information of service users.
	2 of 5	Development and administration of a training program for a high performance group/team. Understand illegal ergogenic aids including: rules as they apply to local and international anti-doping programs; practitioner and athlete rights, responsibilities and penalties; and side effects of doping. Mentors new graduates and emerging sports scientists in the subfields of sports science. Self evaluation and professional development. Problem solving and impact including: Be able to demonstrate a logical and systematic approach to problem solving; Exercise sound judgement and understand principles of uncertainty in complex and unpredictable situations; Be able to monitor and review the ongoing effectiveness of planned activity and modify it accordingly; Be able to initiate resolution of problems and be able to exercise personal initiative; Be able to apply problem solving and scientific reasoning to assessment findings to plan and prioritise appropriate expertise specific interventions; Recognise the value of case conferences and other methods of review; Be able to make reasoned decisions to initiate, continue, modify or cease treatment or the use of techniques or procedures and record the decisions and reasoning appropriately.
	1 of 5	Basic knowledge of space requirements and facility design and layout.

Figure 1. Five standard domains of sports science and elements showing the level of agreement across the five sets of standards.

were also consistent with 4 of 5 and 3 of 5 sets of standard domains respectively covering 80% of elements in this domain. Additionally, the highest level of coverage for the Canadian standards (100%) was in the biomechanics, physiology and performance psychology domain, United States (100%) in the assessment and exercise design & delivery domains, and New Zealand (100%) in the exercise design & delivery domain and energy intake domains.

As noted above, coverage was generally more consistent in the assessment, biomechanics, physiology and performance psychology, and exercise design & delivery elements standard domains.

Discussion

The purpose of this study was to collate and analyse professional standards for practicing as a sport scientist in any part of the world through an international audit process. From the audit, five domains were produced, under which numerous individual elements were

included as generally common or ideal elements of the knowledge and technical skillset of the sport scientist. These main standards domains are: *Sport and Occupational Biomechanics, Physiology and Performance Psychology; Sport and Occupational Performance Assessment; Sport and Occupational Performance Exercise Design & Delivery; Energy Intake for Sport and Occupational Performance; Professional and Ethical Practice*.

The elements in the *Sport and Occupational Biomechanics, Physiology and Performance Psychology* domain are primarily knowledge-based. This domain specifically detailed minimal sport science knowledge of biomechanics, physiology and psychology in relation to sport, occupational performance and extreme environments without being an exhaustive list. All standards from the five countries covered most of the knowledge base for this domain. With competency-based standards now being adopted by many health and medical professions (Frank et al., 2024; Gruppen et al., 2012; Palermo et al., 2022) there is an opportunity to revise the elements in this domain to better reflect the technical skill requirements of a sport scientist.

The elements in the *Sport and Occupational Performance Assessment* domain were also predominantly knowledge-based, with only two elements including application or analysis. Many of these elements could be enhanced or re-created to encourage the ability to perform assessment techniques. This domain has excellent potential to include the competency and capability to perform the skills in this domain, which a practitioner will need to apply (Australia ESS [ESS], 2025).

The elements in the *Sport and Occupational Performance Exercise Design & Delivery* domain are largely knowledge-based with limited reference to physical practice, despite exercise design and delivery requiring practical skillsets. The knowledge requirements provide the basis but there is an opportunity to feature the skills or professional capabilities to design and deliver interventions.

The *Energy Intake for Sport and Occupational Performance* domain would appear to be largely related to the nutritional area of sport science, with the audit identifying that few of the contributing original professional standards contain this as a domain. This domain might not be seen as appropriate for sport science practice without additional sports nutrition qualifications (Gleason et al., 2024) or the elements contained within this nutrition domain could be migrated to other standard domains.

The *Professional and Ethical Practice* domain is the largest of the domains created in this audit, so large that they might be presented as two separate domains consistent with the approach taken by some of the national organisations audited (Australia ESS [ESS], 2024; ESS, 2025; Sciences TCAoSaE 2025; TCAoSae, 2025). It contains a range of knowledge, skills and attributes that the previous domains might emulate. The knowledge-based elements are the most represented by the contributing standards, as per the previous domains, and the skills and attributes required by the sport scientist could be emphasised across the elements in this domain.

The professional practice of sport science continues to grow in recognition around the world with many nations having applied sports scientists working with recreational to elite athletes across amateur and professional sporting clubs and public funded institutes (Suchomel & McMahon, 2024; Zhong et al., 2024). Increasingly a base qualification for the sport science role is a university degree majoring in exercise and sports science, ranging from bachelor to PhD level (Stevens et al., 2018; Zhong et al., 2024). Whilst in some countries professional standards guide the training and practice of sport science, the paucity of professional standards on a global level has been laid bare in this research. The initial environmental scan of existing sport science professional standards in this research was extensive. All seven of the steering committee members leveraged their broad professional networks and conducted their own systematic review of publicly available documentation. Early investigations suggested that sport science standards may exist in 23 organisations across 15 countries. Upon deeper exploration only nine professional 'guideline' documents were revealed and once the inclusion criteria for entry-level sport science standards were applied only 5 sets of standards moved forward to inform the audit. With the importance of professional standards being recognised in many professions, including cognate professions such as clinical exercise physiology, it is surprising that so few sport science professional standards were revealed.

What this research highlights is that if the sport science profession is to fully realise the current and forecast workforce need for practitioners who are highly competent, practice ethically, enhance training and performance, and provide quality care for the athlete there is a need for sport science standards to exist in more countries. This can be realised by national organisations developing their own sport science professional standards or having a body like ICSESP provide an international set of professional standards that countries can either adopt or use as a baseline for developing jurisdictional specific sport science professional standards.

This research has focused on the audit of entry-level sport science professional standards and the identification of the key components of existing frameworks. In practice, sport science does represent a broad church of specializations with sport physiology, sport psychology, sport biomechanics, performance analysis, strength and conditioning, performance nutrition, skill acquisition and kinathropometry being commonplace. Future work could use the entry-level professional standards that arise from this research as the 'core' layer of practice standards, with audits of specialization competencies setting the scene for a range of 'advanced' professional standards in sport science.

Professional and ethical conduct in sport science, as in many related health and exercise professions, has received increasing attention in recent years. Future professional standards for sport science practice may explicitly require practitioner to comply with codes of conduct and ethical practice. The ICSESP has developed industry guidance outlining key principles of professional and ethical practice (ICSESP, 2025). National bodies responsible for accrediting and regulating sport science professionals are tasked with developing and regularly reviewing frameworks that encompass professional standards, codes of conduct, scopes of practice, and complaints and disciplinary procedures.

A limitation of this audit is that it is based on only the limited number of associations that have produced professional standards for sport science and the details used for these vary between associations. Moreover, whilst an exhaustive environmental scan was undertaken prior to this study to identify existing sets of professional standards, there may have been some standards that could have been missed in non-English speaking jurisdictions and in areas where there are diminished cross-country connections. The detail is often limited in differentiating between knowledge, technical skills and professional proficiencies in a professional context, but this audit at least draws together the strengths from these various professional standards. Additionally, due to the small sample size, data were summarised using medians and interquartile ranges only. This approach was considered appropriate; however, it may limit the strength of inferential conclusions. Future research should review, synthesise and enhance these audit findings into international professional standards for sport science utilising the expertise of sport science academics and practitioners representing numerous nationalities to share and enhance optimal practice. As has been observed with the development of international clinical exercise physiology professional standards (N. E. Reeves et al., 2026), the operationalisation of international standards can see necessary practitioner skills and competencies flow through to accreditation and certification frameworks that consider formal education and industry experience.

Another potential limitation of this audit was the selection of the professional standards from one organisation from which the base framework for cross-comparison was structured. The decision was made to use the most recent standards because it is expected to be the most contemporary, however no judgement was made on the relative quality or suitability of the standards. Importantly, all content from all standards was considered equally in the audit findings.

Conclusion

This audit suggests there is sufficient similarity between the professional standards that were reviewed to further develop these into international professional standards for sport science. Such standards could be reviewed by international experts to encourage the uptake of such standards more globally to enhance education and practice in sport science. Greater visibility of the relevant technical skills and professional attributes throughout the standards beyond knowledge would be beneficial.

Acknowledgment

NR has been the lead author of this article, and he generated the substantial portion of the content of the article. Professor TC, HC, Professors NG and KP, Dr AS and Associate Professor KD contributed to the writing, review and editing of the article.

Author contributions

CRediT: **Nathan E. Reeves:** Conceptualization, Formal analysis, Investigation, Methodology, Project administration, Validation, Visualization, Writing – original draft, Writing – review & editing; **Tom Comyns:** Investigation, Methodology, Project administration, Writing – original draft, Writing – review & editing; **Hannah Connon:** Formal analysis, Project administration, Writing – original draft, Writing – review & editing; **Nicholas Gant:** Investigation, Methodology, Writing – original draft, Writing – review & editing; **Kate Pumpa:** Investigation, Methodology, Writing – original draft, Writing – review & editing; **Andrew Scott:** Investigation, Methodology, Writing – original draft, Writing – review & editing; **Kade Davison:** Conceptualization, Data curation, Methodology, Writing – original draft, Writing – review & editing.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

The author(s) reported there is no funding associated with the work featured in this article.

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