



A domain-specific peer-review checklist for sport science journals: Translating a conceptual framework into practice

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- A – Research concept and design
- B – Collection and/or assembly of data
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- D – Writing the article
- E – Critical revision of the article
- F – Final approval of article

ABSTRACT

The peer-review process plays a central role in ensuring the quality and credibility of scientific research; however, it remains characterized by variability, limited standardization, and a lack of domain-specific evaluation criteria. These limitations are particularly evident in sport science, a multidisciplinary field involving complex, context-dependent, and applied performance data. Although several guidelines for peer-review exist, they are often either generic or tailored to specific domains, limiting their applicability to sport science research. The aim of the present study was to develop a comprehensive, domain-specific reviewer checklist for sport science journals. Building on a previously proposed conceptual framework of publishable research, the checklist operationalizes key dimensions of manuscript evaluation into structured criteria, spanning editorial screening, conceptual foundation, methodological and analytical rigor, research transparency, scientific communication, and scientific and practical impact. In addition, the framework integrates both hierarchical and iterative elements of the peer-review process, conceptualizing manuscript evaluation as a cyclical process that begins and concludes with editorial decision-making. The proposed checklist provides a structured and contextually relevant tool to support reviewers in conducting more consistent and transparent evaluations, while assisting editors in decision-making and offering authors clearer expectations. Although not yet empirically validated, the proposed framework represents a step toward improving the quality, consistency, and contextual relevance of peer-review in sport science.

Keywords: editor, reviewer, sports, manuscript evaluation, research quality, publication.

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INTRODUCTION

The evaluation of scientific manuscripts is a central component of the peer-review process (Bustin, 2025; Hoogenboom & Manske, 2012), ensuring the quality, credibility, and relevance of published research (Chew et al., 2025; Jha, 2014; Kadam, 2025). However, in practice, peer-review remains a largely unstandardized and heterogeneous process, with substantial variability in reviewer practices, limited formal training, and no universally accepted evaluation criteria, often leading to inconsistent and, at times, superficial assessments (Falavigna et al., 2017; Lu et al., 2022; Sizo et al., 2025).

In sport science, these limitations are particularly pronounced due to the inherently multidisciplinary nature of the field (Piggott et al., 2019; Reid et al., 2004), combined with the complexity and increasing volume of performance-related data (Bai & Bai, 2021; Mănescu, 2025; Rein & Memmert, 2016). Studies often involve large, multidimensional datasets, context-dependent variables (e.g., match status, opponent quality), and applied performance environments, which require domain-specific criteria for proper evaluation (Goes et al., 2021; McGarry, 2009; Memmert, 2025). In parallel, editorial decisions are influenced not only by methodological rigor, but also by factors such as alignment with journal scope, ethical compliance, and clarity of scientific communication (Arthur, 2020; Edmans, 2025; Lake, 2020; Pickett & McDonnell, 2017).

Despite the growing number of publications providing guidance on how to perform peer review, these contributions are frequently either too generic (Dhillon, 2021; Hughes et al., 2023; Lu et al., 2022; Mondal et al., 2023; Sedaghat et al., 2024; Sizo et al., 2025) or overly tailored to specific fields such as clinical research (Falavigna et al., 2017; Schulte et al., 2024). Consequently, there remains a lack of comprehensive, standardized, and domain-specific frameworks capable of supporting consistent and contextually appropriate evaluation of sport science manuscripts. A recent conceptual framework proposed that publishable sport science research should be understood as a progressive and hierarchical process, moving from conceptual foundations to methodological and analytical rigor, research transparency, and effective scientific communication, ultimately leading to both scientific and practical impact (Plakias, 2026a). However, although this framework provides a structured understanding of research quality, it does not directly translate into an operational tool for manuscript evaluation.

Therefore, the aim of the present study is to develop a comprehensive, domain-specific reviewer checklist for sport science journals. The proposed checklist operationalizes the dimensions of research quality into practical evaluation criteria, while also incorporating a preliminary editorial and ethical screening stage that reflects the realities of desk rejection. By providing a structured and hierarchical evaluation tool, this work seeks to enhance the quality and transparency of the peer-review process within sport science.

Peer-Review Checklist Framework

The proposed checklist (Table 1) is designed as a practical extension of the previously published conceptual framework of research quality in sport science (Plakias, 2026a). While the original framework conceptualized publishability, the present checklist operationalizes these dimensions into concrete evaluation criteria

applicable during peer review. In addition, the checklist incorporates a preliminary editorial and ethical screening stage, reflecting the realities of the manuscript selection process, where a substantial proportion of submissions are desk-rejected prior to full peer-review (Beugelsdijk & Bird, 2025; Edmans, 2025; Meijer & Webster, 2024). The checklist is structured hierarchically, guiding reviewers from fundamental eligibility criteria to deeper levels of scientific evaluation and, ultimately, to the assessment of practical and scientific impact.

It should be noted that Level 0 primarily represents an editorial screening stage conducted before external peer review. This level includes criteria such as journal scope alignment, compliance with author guidelines, ethical requirements, and checks for plagiarism or duplicate publication. In contrast, Levels 1–6 are primarily intended to guide reviewers in evaluating the scientific quality, rigor, transparency, communication, and impact of submitted manuscripts.

Table 1. Checklist for Evaluating Scientific Rigor and Publishability in Sport Science Research

Level	Key evaluation criteria	Critical considerations
0. Editorial screening	– Alignment with the aims and scope of the journal – Compliance with author guidelines (format, structure, reference style) – Absence of plagiarism or duplicate publication – Disclosure of conflicts of interest; Ethical approval and informed consent (where applicable)	Manuscripts failing to meet these criteria may be rejected without further scientific evaluation, highlighting the importance of this screening stage in the editorial decision-making process.
1.	– Clarity and specificity of the research question or objective – Presence of a genuine and meaningful research gap – Theoretical or conceptual grounding of the study – Explicit positioning as exploratory, descriptive, or confirmatory research – Relevance and potential contribution to the field	Studies lacking a clear conceptual foundation or presenting purely descriptive analyses without theoretical contribution may have limited scientific value and are highly likely to be rejected at the editorial stage before being sent out for peer review.
2.	– Alignment between research question and study design – Appropriateness and justification (e.g., power analysis for quantitative studies or data saturation in qualitative research) of the sample – Validity and reliability of measurement tools and data sources (e.g., GPS accuracy, coding reliability, instrument validation) – Consideration of contextual variables (e.g., match status, opponent quality) – Ecological validity of the study setting; Control of confounding factors; Transparency in data collection procedures	Failure to account for contextual and ecological factors may compromise the validity and interpretability of findings in sport science research.
3.	– Appropriateness of statistical or computational methods (for quantitative studies) or analytical approach (for qualitative studies) – Reporting of effect sizes and confidence intervals (where applicable)	Overreliance on statistical significance testing without consideration of effect magnitude and context,

Table 1. (Continued)

	– Assessment of model assumptions or, in qualitative research, clarity and appropriateness of the analytical framework (e.g., thematic analysis, grounded theory) – Handling of data structure (e.g., multilevel, longitudinal, time-series) or, in qualitative studies, adequacy of data depth and richness – Handling of missing data and outliers – Consideration of interaction effects and non-linear relationships, or, in qualitative research, depth of interpretation and identification of patterns/themes – Transparency in analytical decisions, including coding procedures, theme development, and researcher reflexivity (for qualitative studies) – Demonstration of qualitative trustworthiness through credibility, transferability, dependability, confirmability, and researcher reflexivity (for qualitative studies)	or, in qualitative research, superficial analysis lacking depth, transparency, or reflexivity, may lead to misleading conclusions.
4.	– Completeness of methodological reporting (i.e., sufficient detail to allow critical appraisal and potential replication of the study); Adherence to reporting guidelines (e.g., CONSORT, STROBE, COREQ) – Transparency in data processing and analytical decisions; Pre-registration of study protocols (e.g., OSF) or clear distinction between confirmatory and exploratory analyses – Reporting of deviations from the original study protocol or analytical plan (when applicable) – Availability of data, code, or supplementary materials (when feasible)	Incomplete reporting limits reproducibility and reduces confidence in the findings. However, while pre-registration and open data practices are increasingly encouraged, their feasibility may be limited in elite sport settings due to data sensitivity and confidentiality constraints.
5.	– Logical structure and coherence of the manuscript – Clarity of writing and argumentation – Appropriate presentation of results (tables, figures) – Consistency between results and interpretation – Avoidance of overinterpretation – Clear acknowledgment and critical discussion of study limitations – Appropriate use of references, including relevance, accuracy, and adequate integration with existing literature	Poor communication can obscure otherwise valid findings and limit their impact, while failure to acknowledge study limitations or appropriately position findings within the existing literature may lead to overinterpretation and compromise credibility.
6.	– Scientific contribution and originality (i.e., the extent to which the study provides added value beyond existing knowledge) – Practical relevance and clarity of translation into applied settings (e.g., actionable implications for coaches and analysts) – Generalizability or transferability of findings across contexts, populations, or performance levels	Studies may demonstrate methodological rigor but offer limited novelty (reducing their contribution to the advancement of the field) or fail to provide clear, actionable implications for practice (limiting their applied impact).

The final proposed framework is illustrated in Figure 1 as a circular and iterative evaluation process. Unlike linear models, this representation reflects the dynamic nature of peer review, where the assessment begins with editorial screening and ultimately returns to the editor for final decision-making. This cyclical structure emphasizes the continuous interaction between reviewers and editors, as well as the progressive refinement of the manuscript across different levels of evaluation.

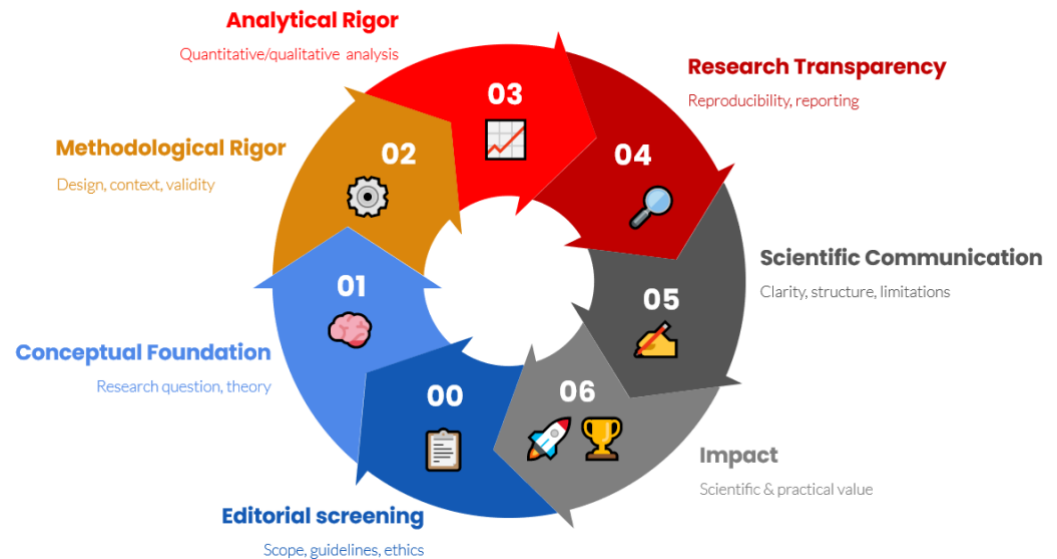


Figure 1. Circular peer-review checklist framework for sport science manuscripts. The model illustrates the cyclical nature of manuscript evaluation, emphasizing that the process both begins and concludes with the editor

Discussion

The present study proposes a domain-specific peer-review checklist for sport science journals, translating a previously developed conceptual framework of publishable research (Plakias, 2026a) into a practical evaluation tool. By operationalizing key dimensions of research quality into practical evaluation criteria, the checklist addresses the need for greater consistency and relevance in the peer-review process of sport science research.

A key contribution of the proposed framework is the integration of both hierarchical and iterative elements of manuscript evaluation. While the checklist is organized into progressive levels, ranging from editorial screening to scientific and practical impact, the circular representation reflects the dynamic nature of peer review, in which manuscripts are continuously refined through interactions between editors, reviewers and authors (Richards et al., 2021; Tennant, 2018). This perspective moves beyond traditional linear approaches and more accurately captures the realities of editorial decision-making.

The checklist also responds to limitations identified in existing reviewer guidelines, which are often either generic or tailored to specific domains (Dhillon, 2021; Falavigna et al., 2017; Hughes et al., 2023; Lu et al., 2022; Mondal et al., 2023; Schulte et al., 2024; Sedaghat et al., 2024; Sizo et al., 2025). By incorporating sport-specific considerations, such as contextual variables, ecological validity, and the research–practice gap, the proposed framework provides a more relevant and comprehensive tool for evaluating studies in this field. In particular, the inclusion of practical relevance and the translation of findings into applied settings reflects the

applied nature of sport science and the increasing demand for research that informs practice (Bishop et al., 2006; Eisenmann, 2017; Fullagar et al., 2019; Halperin, 2018; Halperin et al., 2018; Malone et al., 2019; Plakias, 2026b; Plakias et al., 2025).

Furthermore, previous guidelines have predominantly approached manuscript evaluation through a section-based structure (e.g., title, abstract, methods, results, discussion) (Arthur, 2020; Busse & August, 2021; Hughes et al., 2023; Maiorana & Mayer, 2018; Sizo et al., 2025). In contrast, the present framework adopts a logic-driven and hierarchical approach, focusing on the underlying dimensions of research quality rather than the formal structure of the manuscript. Detailed considerations regarding the content of individual sections are already addressed in the previously published conceptual framework (Plakias, 2026a) and are therefore not repeated here.

From a practical perspective, the checklist may support reviewers in conducting more comprehensive and consistent evaluations, while assisting editors in making more consistent and transparent decisions. In addition, it may provide authors with clearer expectations regarding the criteria used to assess their work, potentially improving the overall quality of submitted manuscripts.

Despite these contributions, some limitations should be acknowledged. First, the checklist has not yet been empirically validated. Future research could examine its reliability, usability, and impact on review quality across different journals and reviewer populations. Second, certain elements of research transparency, such as pre-registration and data sharing, may not always be feasible in elite sport contexts due to data sensitivity and confidentiality constraints. Therefore, the application of these criteria should be considered in relation to the specific context of the study.

CONCLUSION

The proposed peer-review checklist provides a practical extension of a conceptual framework of research quality, offering a domain-specific tool for the evaluation of sport science manuscripts. By integrating hierarchical evaluation criteria within a cyclical review process, the framework reflects both the logic of scientific reasoning and the realities of editorial decision-making. Its adoption may contribute to more consistent, transparent, and contextually appropriate peer-review in sport science. Future studies should empirically evaluate the reliability, usability, and effectiveness of the proposed checklist across reviewers and journals.

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CONFLICT OF INTEREST

The author hereby declares that this research is free from conflicts of interest with any party.

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