

Integrating Real-World Field Data in Sports Science Research: A Call to Action for a Scientific Research Perspective Transition

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1. Round 1

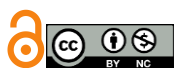
1.1 Reviewer 1

Date: 15 December 2023

The authors of this mini literature review have tried to emphasize a multidisciplinary approach to research in sports sciences in order to be able to approach the research as closely as possible to real-world applications.

The manuscript is well developed with a real focus on the topic. However, some corrections need to be taken into account:

- Please check the reference made in the 1st paragraph of the subtitle "Development of Research based on Data collected from training".
- Please give numbers to the manuscript pages, and number the sentences laterally to make it easier to indicate the sentences
- Please rephrase this sentence: "Those types of types of equipment belong to micro-electro-mechanical systems (which provide a combination of 3D magnetometers accelerometers and gyroscopes)." in Methodological section.
- I think this section: "Contextual Documentation" needs to be more developed and referenced.
- Please add references in these sections: "Athlete Safety" and "Measurement Accuracy".



1.2 Reviewer 2

Date: 11 December 2023

General Assessment: The manuscript presents innovative ideas and a comprehensive perspective on integrating field data with laboratory analysis in sports science research. The concept is excellent, addressing a current and significant shift in sports science methodologies. However, the manuscript requires substantial improvements for clarity, depth, and broader impact.

Specific Comments:

1. **Introduction Section:** Expanded to include more discussion on the challenges of integrating field and laboratory data, emphasizing the importance of methodological rigor and the need to account for external variables and covariables.
2. **Development of Research Section:** Enhanced with detailed examples of advanced technologies like HRV, GPS, and IMUs, illustrating their application in real-world scenarios. Methodological challenges and the need for sophisticated data analysis techniques have been emphasized.
3. **Realistic Advantages of Data Collection Section:** Elaborated on the practical benefits of field data collection. Included specific examples where real-world data collection has directly influenced training and performance optimization.
4. **Methodological Rigor Subsection:** Adjusted to discuss the importance of precise methodologies in field data collection and the calibration of measurement tools.
5. **Conclusion:** Refined to be more impactful and fluent, highlighting the call to action for a balanced approach between field and lab research in sports science. Emphasized the practical implications of the research.

Recommendations for Improvement:

- **Clarity and Coherence:** Ensure that each section seamlessly transitions into the next, maintaining a clear and coherent narrative throughout the manuscript.
- **In-depth Analysis:** Include more comprehensive analyses and discussions on the implications of merging field data with lab analysis.
- **References:** Update and expand the reference list to include recent and relevant studies, ensuring that all claims are adequately supported by current research.

Conclusion: The manuscript holds great potential for contributing to the field of sports science and medicine. With the suggested improvements and a focus on clarity and depth, it can significantly impact both academic and practical applications in sports science research.

Decision: Major Revision

1.3 Editor

Date: 11 December 2023

The article “Outside the laboratory: a practical perspective transition in sports science research” can make a contribution to sports science research. However, there are some limitations in its writing and content that need improvement:

Although the paper presents an innovative perspective, important aspects such as a detailed methodology, a more in-depth literature review and an overall exploration of the multidisciplinary approach were not considered.

Discussion of Methodological Challenges: Although the paper acknowledges the challenges of collecting real-world data, a more in-depth discussion of the methodological limitations and biases associated with collecting real-world data would add depth to the analysis. Given the importance of technology in data collection (e.g., GPS, IMU systems), a more detailed

exploration of how technological advancements have influenced research methodologies in sports science would be valuable. Moreover, it would be beneficial to investigate deeper into how contextual factors like weather, altitude, and training environments influence data collection and interpretation.

Ethical implications: A more detailed discussion of the ethical implications of real-world data collection in sport, particularly regarding athlete consent and data confidentiality, would strengthen the document.

Concluding with potential future directions in sports science research, particularly focusing on emerging trends and technologies, would provide a forward-looking perspective.

These limitations, even if they do not detract from the overall value of the article, it is suggested that improvements for the different sections be made to be able to consider publication of the article.

2. Revised

Editor's decision after revisions: Accepted.

Editor in Chief's decision: Accepted.