



RICYDE. Revista Internacional de Ciencias del Deporte
ISSN: 1885-3137
rcanto@cafyd.com
Editorial Ramón Cantó Alcaraz
España

Gómez-Ruano, Miguel A.
Current approaches to performance analysis in sport
RICYDE. Revista Internacional de Ciencias del
Deporte, vol. XIV, no. 51, 2018, January-March, pp. 3-4
Editorial Ramón Cantó Alcaraz
España

DOI: <https://doi.org/10.5232/ricyde2018.051ed>

Available in: <https://www.redalyc.org/articulo.oa?id=71055516001>

- How to cite
- Complete issue
- More information about this article
- Journal's webpage in redalyc.org

redalyc.org

Scientific Information System Redalyc
Network of Scientific Journals from Latin America and the Caribbean, Spain and
Portugal

Project academic non-profit, developed under the open access initiative



EDITORIAL

<https://doi.org/10.5232/ricyde2018.051ed>

Current approaches to performance analysis in sport. [Enfoques actuales del rendimiento deportivo]

Miguel A. Gómez-Ruano
Universidad Politécnica de Madrid

Performance analysis in sport is considered a research area that has grown rapidly in the last two decades (O'Donoghue, 2014). One of the most important reasons of this fact is the interest of sport stakeholders (i.e., coaches, players, managers, fans and performance analyst) regarding to improve the training processes and the management and control of competition (O'Donoghue, 2014; O'Donoghue, Holmes, & Robinson, 2017). Accordingly, performance analysis has evolved including different topics and issues to be studied such as: critical moments and perturbations in sport, coaches' behaviours, performance indicators in sport, injuries incidence and physical analysis, movement analysis during competitions, reliability and validity of sport behaviours, analysis of technique and tactics in sport, normative profilings, analysis of effectiveness of performance analysis or the analysis of referees' performance (O'Donoghue, 2014). These issues raised have been studied and systematized during the last decade including the combination of variables (physical, technical, tactical, psychological, etc.) showing a multivariate and holistic approach to understand the performance in sport (Memmert, Lemmink, & Sampaio, 2017). Additionally, performance analysis has tried to use new technologies in sport (i.e., GPS, tracking data, software, etc.), sport analytics (i.e., statistical analysis models and big data), the importance of competition environment (e.g., situational variables) or the impact of gender (i.e., effect of sex on performance) in order to improve the information gathered and the analysis and findings derived from competition and trainings (Rein & Memmert, 2016). Therefore, actual performance analysis is a research area that covers a wide range of aspects of sport and is studied from a multifactorial approach that allow to develop the training processes and competition management.

Within this specificity, the special issue of performance analysis tried to be focused on these different issues and approaches to improve the knowledge of this scientific topic. The articles that have been included in the special issue of performance analysis in sport can be classified in any of the relevant topics described in the previous the training procedures from the research findings.

In addition, some key aspects were done within these studies accounting for gender effect, the mixed analysis of physical and technical-tactical parameters, the importance of situational variables during the competitions, or the performance analysis of sport across continents.

Nowadays, performance analysis has evolved to a more specific research area that needs the use of performance indicators from a holistic perspective (Memmert, Lemmink, & Sampaio, 2017). According to Rein and Memmert (2016) the traditional studies of this area lacks of a high-order description about sports team dynamics (i.e., the use of a combination of physical, technical and tactical parameters under the competition complexity). Then, this approach would increase the validity and direct impact of the results for physical trainers, coaches or performance analysts. The articles that are presented in the current special issue try to vary and adapt the new insights of performance analysis to improve the practice due to the quality of procedures and results obtained.

Regarding to the use of mixed performance indicators, two studies are included. One of them focused on the influence of physical activity of soccer players on fluid loss variation (), and the second one combining the information from technical parameter and heart rate during small sided games in basketball. Both approaches allowed reaching consistent conclusion about performance analysis of soccer and youth basketball players with a great impact of training drills.

The gender effect has less studied in performance analysis research area (Pollard & Gómez, 2014). Accordingly, the special issue tried to incorporate some new analyses that accounted for females' performances. Thus, two studies were included, the first one focused on padel sport using technical and tactical performance indicators according to match outcome; and the second one studying the shooting actions in water polo according to match outcome.

The studies were consistent with the performance analysis procedures and described the importance of some key performance indicators in women's sports (i.e., padel and water polo) improving the applied scientific knowledge and the applicability to the female gender.

One of the most recent approaches to tactics in sports is the use of positional and tactical metrics. Rein and Memmert (2016) described this issue a quite relevant when accounting for group-tactical parameters during competition. Accordingly, the study presented in this special issue allows identifying tactical behaviours according to the size of the pitch in soccer. This interesting approach was done using GPS systems and the calculation of centroids and stretch index. As was previously argued, this study is focused on high-order interactions in soccer with a real impact for physical trainers and coaches due to the use of different task design (Rein & Memmert, 2016).

The analysis of situational variables is one of the most relevant topics in performance analysis (Gómez, Lago, & Sampaio, 2013). These variables are considered as highly important when controlling for team's performance during competitions. In fact, the use of these variables during the performance analysis researches is very useful when accounting for critical incidents or the impact of some relevant actions that may vary the match outcome (Gómez, Ortega, & Furley, 2016). Accordingly, one study was included in the special issue referred to this issue; particularly, the analysis of game location and quality of opposition effects was applied to handball exclusions. With this study there is a direct application of competition management for coaches when facing with player's exclusions or the opponent's exclusions.

The last issue covered by the studies of the special issue is the performance analysis among continents. This analysis has not been studied before in a depth way, then the current approach gives a better identification of performance trends based on the zone of the world. The study included tried to compare the performance of basketball teams' among the continents. This approach gives a novel rationale for considering the external validity of the performance analysis studies depending on the country/ continent used (i.e., national leagues or championships). Therefore, further studies should consider that the sample may modify the results obtained, their interpretation and the impact that they have on training and competition.

Lastly, the aim of this special issue on performance analysis was to cover a wide range of analyses focused on the different topics and methodologies used in this research area. We hope that the articles will be of interest and improve the knowledge of performance analysis. Finally, we would like to enhance the importance of this type of researches to increase the applicability of findings (i.e., gender, similarities with competition, mix of physical and technical parameters, or situational variables) and the high-order relationships established that allow to obtain global and real description and prescription of performance analysis.

References

- Gómez, M.A.; Lago, C., & Pollard, R. (2013). Situational variables. In T McGarry, P O'Donoghue, and J Sampaio (Eds.) *Routledge Handbook of Sports Performance Analysis* (pp. 259-269). London: Routledge.
- Gómez, M.A.; Ortega, E., & O'Donoghue, P. (2016). The influence of unsportsmanlike fouls on basketball teams' performance according to context-related variables. *International Journal of Sports Physiology and Performance*, 11(5), 664-670.
<https://doi.org/10.1123/ijsp.2015-0478>
- Memmert, D.; Lemmink, K., & Sampaio, J. (2017). Current approaches to tactical performance analyses in soccer using position data. *Sports Medicine*, 47(1), 1-10.
<https://doi.org/10.1007/s40279-016-0562-5>
- O'Donoghue, P. (2014). *An introduction to performance analysis of sport*. London: Routledge.
- O'Donoghue, P.; Holmes, L., & Robinson, G. (2017). *Doing a research Project in sport performance analysis*. London: Routledge.
- Pollard, R., & Gómez, M.A. (2014). Comparison of home advantage in men's and women's football leagues in Europe. *European Journal of Sports Sciences*, 14(Sup. 1), S77-S83.
<https://doi.org/10.1080/17461391.2011.651490>
- Rein, R., & Memmert, D. (2016). Big data and tactical analysis in elite soccer: future challenges and opportunities for sport science. *Springer Plus*, 5, 1410.
<https://doi.org/10.1186/s40064-016-3108-2>

Miguel A. Gómez-Ruano
Universidad Politécnica de Madrid
Email: miguelangel.gomez.ruano@upm.es