

Are SJR, CiteScore, and H5 Interchangeable? Evidence from Ibero-American Sport Sciences Journals

¿Son intercambiables el SJR, CiteScore y H5? Evidencia en revistas iberoamericanas de ciencias del deporte

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Data availability

All data supporting the findings of this study are available within the article. For additional details, please contact the corresponding author.

Abstract

Citation indicators are widely used to classify scientific journals across research evaluation systems. However, these metrics are derived from different databases, citation windows, and methodological assumptions, raising questions about their degree of equivalence. To address this issue, the association and interchangeability among three citation indicators, namely, Scimago Journal Rank (SJR), CiteScore, and the H5 index of Google Scholar Metrics, were analyzed. A sample of 19 Ibero-American journals in physical therapy, sports therapy, and rehabilitation indexed in Scopus and with profiles in Google Scholar Metrics was examined. Associations were evaluated using Spearman and Pearson correlation coefficients, while ranking agreement was assessed using Kendall's coefficient of concordance, top-five overlap, and maximum rank discrepancy. The findings show a strong association between SJR and CiteScore, whereas the H5 index shows lower concordance with both indicators. It is concluded that citation indicators should not be interpreted as fully interchangeable metrics.

Keywords

Bibliometrics; scientific journals; bibliometric indicators; citation analysis; research evaluation.

Resumen

Los indicadores citacionales se utilizan ampliamente para clasificar revistas científicas en distintos sistemas de evaluación de la investigación. Sin embargo, estos indicadores se derivan de bases de datos, ventanas de citación y supuestos metodológicos diferentes, lo que plantea dudas sobre su grado de equivalencia. Para ello, se analizó la asociación y la intercambiabilidad entre tres indicadores citacionales: Scimago Journal Rank (SJR), CiteScore y el índice H5 de Google Scholar Metrics (GSM). Se

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Jorge Homero Wilches-Visbal: conceptualization, formal analysis, investigation, methodology, software, supervision, visualization, writing – original draft, writing – review & editing.
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Carlos Enrique García-Yerena: formal analysis, investigation, writing – original draft.

Generative AI declaration

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examinó una muestra de 19 revistas iberoamericanas de fisioterapia, terapia deportiva y rehabilitación con presencia en Scopus y con perfil en Google Scholar Metrics. Las asociaciones se evaluaron mediante los coeficientes de correlación de Spearman y Pearson, mientras que la concordancia entre rankings se examinó mediante el coeficiente de concordancia de Kendall, el solapamiento de las cinco primeras posiciones y la discrepancia máxima de rangos. Los hallazgos muestran una fuerte asociación entre SJR y CiteScore, mientras que el H5 de GSM presenta menor concordancia con ambos indicadores. Se concluye que los indicadores citacionales no deben interpretarse como plenamente intercambiables.

Palabras clave

Bibliometría; revistas científicas; indicadores bibliométricos; citación; evaluación de la investigación.

The evaluation of scientific journal quality worldwide has been largely based on the quartile attained in citation indicators such as SCImago Journal Rank (SJR), Journal Citation Reports (JCR), CiteScore (CS) or the H5 index, despite substantial differences in their methodological foundations [1–3]. This is particularly evident in Colombia, where Publindex treats SJR/JCR/H5 as equivalent in the sense that a journal's category is determined by the best quartile it attains across indicators. For instance, a journal ranked Q1 in SJR but Q2 in JCR will be classified as Publindex category A1 under the principle of favorability [4].

However, it is well known that each of the citation indicators mentioned above captures somewhat different constructs: SJR reflects citation impact weighted by the prestige of the citing journal; JCR estimates a journal's average annual citation frequency (focusing on popularity); CS relates to the average citations per document over a four-year window (in contrast to the others, which use three- and two-year windows, respectively); and H5 is a hybrid of productivity (volume) and impact (citations) over a five-year window [5]. This raises the question of the extent to which these indicators are correlated, equivalent, or interchangeable when producing journal rankings.

For this purpose, a sample of 19 Ibero-American journals in physical therapy, sports therapy, and rehabilitation with presence in SJR and CiteScore and with a profile in Google Scholar Metrics (GSM) was selected in August 2025 (Table 1).

The Shapiro–Wilk test was applied to assess the normality of the indicators in the sample. Given the observed non-normality, Spearman's coefficient (ρ_s) was used to measure monotonic correlation and Pearson's coefficient (ρ_p) as a measure of linear correlation, to verify concordance in the direction of the relationships and strengthen the robustness of the results. In addition, Kendall's coefficient of concordance (W_k) was computed to assess overall agreement among journal positions across citation indicators; the overlap of the top five positions (Top-5 overlap, $T5_{ovl}$) to identify agreement among the highest-ranked journals; and the maximum rank delta ($\Delta_{rank, max}$) to quantify the greatest displacement of journals between lists. These metrics were used to complement the bivariate evaluation by adding dimensions of ordering and discrepancy that are not reflected in correlation coefficients, thereby providing a more comprehensive view of concordance among the indicators.

A strong positive correlation was observed between SJR and CS and a moderate correlation between CS and H5. This indicates that journals with high SJR values also tend to have high CS values; a similar, though less pronounced, pattern occurs between CS and H5. By contrast, SJR and H5 did not show a clear concordance pattern; that is, a journal with a high H5 does not necessarily have a high SJR (Table 2).

Table 1. Ibero-American journals in physical therapy, sports therapy, and rehabilitation included in the analysis and their citation indicators.

Title	ISSN	H5	SJR	CS
Aloma	2339-9694 / 1138-3194	17	0.420	2.0
Apunts Sports Medicine	2666-5069	16	0.391	2.4
Retos	1988-2041 / 1579-1726	59	0.338	3.6
European Journal of Human Movement	2386-4095	11	0.289	1.0
E-Balonmano.com: Revista de Ciencias del Deporte	1885-7019	10	0.257	1.6
Acta Ortopedica Brasileira	1413-7852	16	0.253	1.0
Fisioterapia em Movimento	1980-5918	15	0.229	0.5
Motricidade	2182-2972 / 1646-107X	12	0.211	0.8
Revista Brasileira de Ciencias do Esporte	0101-3289 / 2179-3255	12	0.201	0.7
Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte	1577-0354	19	0.200	0.7
MHSalud	1659-097X	13	0.189	0.8
Medicina Naturista	1576-3080	10	0.187	0.5
Sport TK	2254-4070 / 2340-8812	18	0.178	1.1
Rehabilitación	0048-7120 / 1578-3278	13	0.172	0.9
Revista de Investigación e Innovación en Ciencias de la Salud	2665-2056	11	0.155	0.5
Archivos de Medicina del Deporte	0212-8799	8	0.154	0.6
Revista Portuguesa de Enfermagem de Reabilitação	2184-3023 / 2184-965X	12	0.140	0.3
Fisioterapia	1578-2107 / 0211-5638	13	0.136	0.5
Revista Pesquisa em Fisioterapia	2238-2704	12	0.130	0.4

Note. H5 of Google Scholar Metrics; SJR: Scimago Journal Rank; CS: CiteScore.

Table 2. Agreement among SJR, CiteScore, and H5 in a sample of Ibero-American sport sciences journals.

Comparison	ρ_p	ρ_s	$T5_{ovl}$	$\Delta_{rank, max}$
SJR vs CiteScore	0.805***	0.794***	4/5	8
CiteScore vs H5	0.786***	0.458*	3/5	10
SJR vs H5	0.418	0.361	2/5	13

Note. $p < 0.05^*$, $p < 0.01^{**}$, $p < 0.001^{***}$

Regarding overlap among the highest positions across indicators, SJR and CS share four journals in the top 5, whereas only two of the top 5 journals by H5 are also in the SJR top 5. This suggests that the journals leading in one indicator do not always occupy equivalent positions in another, particularly between the latter two.

When analyzing the maximum discrepancies in journal positions between indicators, the displacement reached 13 positions between SJR and H5; 11 between H5 and CiteScore; and 8 between SJR and CiteScore. These variations show that, although there are correlation trends among the three indicators, journal ordering can differ substantially depending on the metric chosen. In particular, *E-Balonmano.com: Revista de Ciencias del Deporte* showed the largest discrepancy between SJR and H5 (4th in SJR vs 17th in H5); *SportTK* showed the largest variation between SJR and CiteScore (13th vs 5th); and *Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte* changed the most between CiteScore and H5 (2nd vs 12th).

Kendall's coefficient of concordance ($W_k = 0.692$, $p = 0.005$) indicates a moderate-to-high and significant overall agreement among the citation indicators SJR, CiteScore, and H5, suggesting that despite individual discrepancies there is a general tendency to rank journals similarly across the three lists. Notably, although the bivariate correlation between SJR and H5 was not significant, W_k was significant, suggesting that even if SJR and H5 do not show a strong association on their own, there are shared ordering patterns across the three rankings when considered jointly.

The strong similarity between SJR and CiteScore may be because both are computed from the same database: Scopus. In contrast, Google Scholar Metrics' H5 retrieves citations from a much broader network of documents, including theses, books, conference proceedings, and other sources not necessarily indexed in Scopus, which can yield higher, and often redundant, citation counts. Therefore, the data source and its quality control are decisive when interpreting bibliometric metrics [6].

It can be concluded that SJR, CiteScore, and H5 should not be interpreted as fully interchangeable indicators, even if they are partially comparable, for the following reasons: i) SJR and CiteScore rely on similar indexing logics and quality-control mechanisms, which favors greater concordance in impact assessment; ii) H5 is based on a broader and more heterogeneous corpus of documents, incorporating citation dynamics that are not always captured by the other two Scopus-based indicators; iii) these structural differences explain the observed variations in journal rankings; and iv) in academic assessment it may be methodologically more robust to recognize the complementarity of indicators and avoid assuming automatic equivalence among them.

Considering the recent changes introduced in the Publindex 2026 call [7], future research may extend this line of inquiry by examining how the Composite Metrics Index (ICM) correlates or aligns with established indicators such as SJR, CS and JCR.

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