



# Measuring the growing impact of *BOSEM*: halfway there or living on a prayer?

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**To cite:** Owen PJ, Belavy DL, Robinson DG, *et al.* Measuring the growing impact of *BOSEM*: halfway there or living on a prayer? *BMJ Open Sport & Exercise Medicine* 2022;**8**:e001427. doi:10.1136/bmjsem-2022-001427

► Additional supplemental material is published online only. To view, please visit the journal online (<http://dx.doi.org/10.1136/bmjsem-2022-001427>).

Accepted 25 July 2022

Comparison is often cited as the thief of joy. However, in academic publishing, comparing the quality and impact of scholarly journals through metrics can help you choose the most impactful journal to entrust your scientific work. Naturally, the quality and impact of a journal cannot be captured in a single value; consequently, various metrics exist. For example, *BMJ Open Sport and Exercise Medicine (BOSEM)* ranks 36th out of 218 journals in the field of Physical Therapy, Sports Therapy and Rehabilitation; we have a CiteScore of 4.6 and a Source Normalized Impact per Paper (SNIP) of 1.294.<sup>1</sup> Another way of looking at our impact is to consider the number of visitors our Open Access content draws. So far this year (January to June 2022), we welcomed 349 629 page views. This foresees again an increase compared with 2021 (647 451 page views) and 2020 (517 858 page views). Are you starting to get dizzy yet? We have not touched on arguably the most important metric, the Journal Impact Factor (JIF). You may have noticed that *BOSEM*, as yet, has not been awarded this metric. The *BOSEM* Editorial Board would like to explain why, as well as measure the growing impact of *BOSEM* via our own 'unofficial' JIF calculation.

## A JOURNAL IMPACT FACTOR

The JIF is a metric awarded and upgraded annually by Clarivate in their Journal Citation Report.<sup>2</sup> The JIF represents the annual number of citations of published manuscripts over the two preceding years. The 2020 and 2021 JIFs were calculated using the following formulae<sup>3</sup>:

2020 Journal

$$\text{Impact Factor} = \frac{\text{Citations in 2020 to items published in 2018 + 2019}}{\text{Number of citable items in 2018 + 2019}}$$

2021 Journal

$$\text{Impact Factor} = \frac{\text{Citations in 2021 to items published in 2019 + 2020}}{\text{Number of citable items in 2019 + 2020}}$$

The JIF is considered a proxy for the importance of a journal in its field. After all, important and impactful publications will be cited more often in other scientific work. In reality, there is some controversy around the JIF.<sup>4,5</sup> Yet, for now, it remains the metric most editorial teams eagerly look out for each year.

## A JOURNAL'S JOURNEY TOWARDS AN IMPACT FACTOR

While 192 journals received a JIF for the first time in June 2022,<sup>3</sup> this was not the case for *BOSEM*. Acquiring a JIF is not given. Journals that receive a JIF are typically the most consistently high impact in their scientific disciplines; consequently, the bar is set high. So, what is the process of acquiring a JIF? First, after 2 years of publication history, a journal can apply to be listed in the Web of Science Core Collection. The journal is then evaluated against stringent quality criteria, including editorial board strength, transparency and quality of editorial processes and scientific and content quality of published manuscripts. When a journal passes this initial evaluation, it is accepted in the Emerging Sources Citation Index and indexed in the Web of Science Core Collection. After 2 years, the journal is re-evaluated, and a JIF is awarded if it is deemed of high quality for its field. Despite *BOSEM* being around since 2015, we are yet to receive a JIF. We applied for this process 4 years ago and we are now heading into the second year of our listing in the Emerging Sources Citation Index. We are hopeful to be re-evaluated to receive a JIF in 2023.



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**Table 1** Official 2020 and 2021 Journal Impact Factors (JIF) for journals identified as Q1 in Sports Science in the 2021 Journal Citation Reports, and our calculated 2020 and 2021 JIF for *BMJ Open Sport Exercise and Medicine (BOSEM)*

Journal	2020 JIF	2021 JIF
American Journal of Sports Medicine	6.203	7.010
Arthroscopy	4.772	5.973
Biology of Sport	2.806	4.606
BOSEM	2.369	3.436
British Journal of Sports Medicine	13.800	18.473
Exercise and Sport Sciences Reviews	6.246	6.642
Exercise Immunology Review	6.308	11.067
International Journal of Sport Nutrition and Exercise Metabolism	4.599	4.619
International Journal of Sports Physiology and Performance	4.010	4.211
Journal of Orthopaedic and Sports Physical Therapy	4.751	6.276
Journal of Science and Medicine in Sport	4.319	4.597
Journal of Sport and Health Science	7.179	13.077
Journal of Strength and Conditioning Research	3.781	4.415
Journal of the International Society of Sports Nutrition	5.159	4.948
Medicine and Science in Sports and Exercise	5.411	6.289
Psychology of Sport and Exercise	4.785	5.118
Qualitative Research in Sport Exercise and Health	6.736	7.591
Scandinavian Journal of Medicine and Science in Sports	4.221	4.645
Sports Health	3.843	4.355
Sports Medicine	11.140	11.928
Sports Medicine—Open	4.830	6.766

### CALCULATING A JIF FOR *BOSEM*

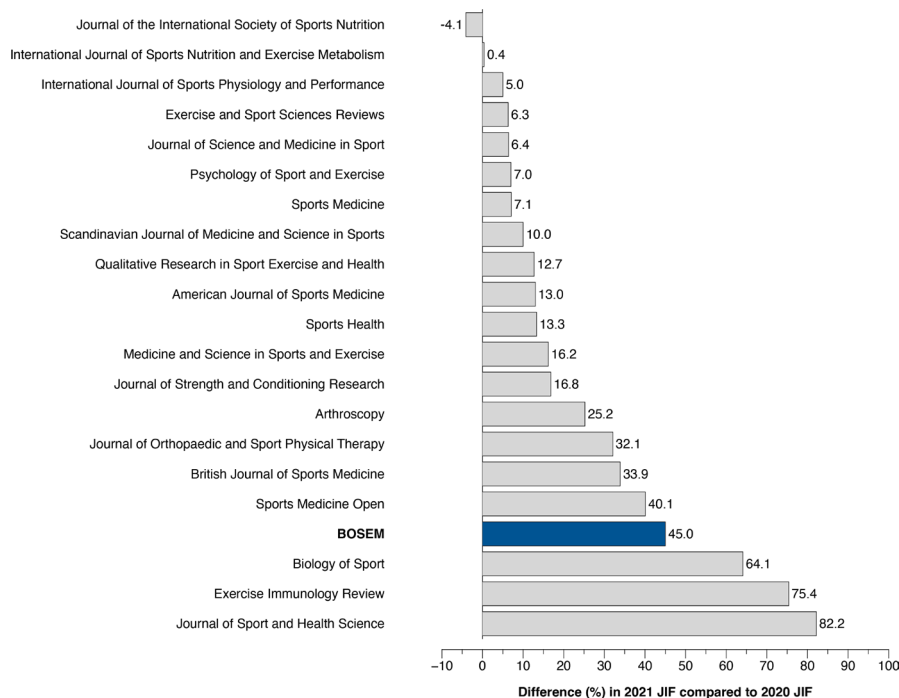
Despite not obtaining an official JIF yet, we performed our own calculation to enable comparison to other journals in the sport and exercise medicine field. Per Clarivate protocols,<sup>3</sup> we searched the Web of Science Core Collection on 29 June 2022 using the following search string: SO=(BMJ OPEN SPORT EXERCISE MEDICINE). We then refined document types to articles and review articles only. We extracted all documents from 2018 (n=139; online supplemental file 1), 2019 (n=113; online supplemental file 2) and 2020 (n=121; online supplemental file 3). We then extracted total citations in: (a) 2020 for articles published in 2018 (n=363) and 2019 (n=234), and (b) 2021 for articles published in 2019 (n=429) and 2020 (n=375). Using the Clarivate JIF formulae, we calculated the 2021 and 2020 JIF for *BOSEM*:

$$2020 \text{ Journal Impact Factor} = \frac{363 (2018) + 234 (2019)}{139 (2018) + 113 (2019)} = \frac{597}{252} = 2.369$$

$$2021 \text{ Journal Impact Factor} = \frac{429 (2019) + 375 (2020)}{113 (2019) + 121 (2020)} = \frac{804}{234} = 3.436$$

### HOW DO WE COMPARE TO OTHER JOURNALS IN THE FIELD?

We extracted the 2020 and 2021 JIFs for the 20 journals identified as Q1 for Sport Sciences by 2021 Journal Citation Reports (table 1).<sup>6</sup> With a 45% increase from the previous year, our calculated unofficial JIF placed us fourth for the highest percentage difference compared with these journals (figure 1). We, in part, attribute this meteoric rise to the dynamic nature of our diverse editorial board, which brings together a broad range of future



**Figure 1** Difference (%) in 2021 JIF compared to 2020 JIF. *BOSEM*, *BMJ Open Sport Exercise and Medicine*; JIF, Journal Impact Factor.

academic and clinical leaders<sup>7</sup> as well as the open-access nature of the journal, which supports a push towards Open Science practices within the field.<sup>8</sup> When we compare ourselves to other Q1 Sports Science journals, we compare favourably, and our calculations support the notion that *BOSEM* has marked potential to be a leading journal within the field with continued expected growth. We acknowledge that despite a strong position based on our own calculations and perceptions, nothing is a given. Yet, we won't stop believin' and eagerly await our re-evaluation, which hopefully recognises us with an official JIF.

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**Acknowledgements** The authors thank all who contribute to BMJ Open Sport and Exercise Medicine.

**Contributors** Writing—original draft: PJO. Writing—review and editing; approved final manuscript: all.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** PJO is an associate editor at BMJ Open Sport and Exercise Medicine. DLB, DGR, NA, AH, YM, NS are senior associate editors at BMJ Open Sport and Exercise Medicine. EV is the editor-in-chief of BMJ Open Sport and Exercise Medicine.

**Patient consent for publication** Not applicable.

**Ethics approval** Not applicable.

**Provenance and peer review** Commissioned; internally peer reviewed.

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- 1 **Supplement 1.** DOI of all 2018 Articles and Review Articles (n=139) published in BMJ Open
- 2 Sport & Exercise Medicine per Web of Science Core Collection (search: 29 June 2022).

1.	10.1136/bmjsem-2017-000301
2.	10.1136/bmjsem-2017-000317
3.	10.1136/bmjsem-2018-000344
4.	10.1136/bmjsem-2017-000298
5.	10.1136/bmjsem-2018-000459
6.	10.1136/bmjsem-2017-000328
7.	10.1136/bmjsem-2018-000364
8.	10.1136/bmjsem-2018-000426
9.	10.1136/bmjsem-2018-000346
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11.	10.1136/bmjsem-2018-000441
12.	10.1136/bmjsem-2017-000333
13.	10.1136/bmjsem-2018-000348
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137.	10.1136/bmjsem-2017-000332
138.	10.1136/bmjsem-2017-000305
139.	10.1136/bmjsem-2018-000353

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- 1 **Supplement 2.** DOI of all 2019 Articles and Review Articles (n=113) published in BMJ Open
- 2 Sport & Exercise Medicine per Web of Science Core Collection (search: 29 June 2022).

1.	10.1136/bmjsem-2019-000522
2.	10.1136/bmjsem-2019-000597
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112.	10.1136/bmjsem-2018-000447
113.	10.1136/bmjsem-2018-000418

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- 4 **Supplement 3.** DOI of all 2020 Articles and Review Articles (n=121) published in BMJ Open  
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1.	10.1136/bmjsem-2019-000703
2.	10.1136/bmjsem-2019-000641
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120.	10.1136/bmjsem-2020-000804
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