

## SHORT REPORT



# Sleep researchers' rankings of sleep journals

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## Summary

The impact factor is used to rank the quality of scientific journals but has been criticised for a number of reasons. The aim of the study was to investigate sleep researchers' perceptions of sleep journals to determine whether subjective rankings of journals were in line with the journals' impact factors. Clarivate's Journal Citation Reports website was used to identify journals containing the words 'sleep' or 'dream' in the titles with an impact factor since 2018, resulting in 12 journals. A survey including questions about how the respondent would rank these journals (e.g., three most prestigious journals) was developed. A total of 122 sleep researchers completed the survey. *Sleep*, *Sleep Medicine Reviews* and *Journal of Sleep Research* were ranked as the three most prestigious sleep journals, in line with the impact factors of the journals. For the rest of the journals, the subjective rankings and impact factors did not correspond as much.

## KEYWORDS

impact factor, sleep journal, survey

## INTRODUCTION

Sleep research is multidisciplinary, therefore comparisons of sleep journals are not easily found. Marshall and Hoyos (2020) made a useful contribution to the field by ranking scientific sleep journals based on the journals' impact factors up until 2018. A journal's impact factor is used to rank the quality of the journal (Simons, 2008). However, the use of the impact factor has been criticised for a number of reasons. For example, Campbell (2008, p. 5) stated 'a high journal impact factor can be the skewed result of many citations of a few papers rather than the average level of the majority'. In addition, some fields are more cited than others (Alberts, 2013), with different fields having different *citation cultures* (Bornmann et al., 2018). As reviews are generally cited more than other types of research articles, the number of reviews has increased dramatically in recent years (Simons, 2008).

The Hirsch index is used to judge the impact of an individual researcher (Hirsch, 2005). The index is defined by the number of papers with a citation number greater than or equal to the number

of papers (Hirsch, 2005). The h5-index is Google's modified version of the Hirsch index but focuses on journals instead of individual researchers (Marshall & Hoyos, 2020). This index is calculated by the number of articles with the same number of citations published in the last 5 years (Marshall & Hoyos, 2020). Another way to determine the quality of a researcher's work is simply to read a selection of the researcher's publications (Alberts, 2013). As Simons (2008, p. 165) stated, 'What counts is the quality of a scientist's work wherever it is published. That quality is ultimately judged by scientists, raising the issue of the process by which scientists review each other's research'. Hoeffel (1998, p. 1225) asserted that 'The use of impact factor as a measure of quality is widespread because it fits well with the opinion we have in each field of the best journals in our specialty'. However, this is not the case in all fields. For instance, in economics, there is a general consensus on the five most prestigious journals (Bornmann et al., 2018), of which only two correspond to the five with the highest impact factors (Clarivate, 2022). As Bornmann et al. (2018, p. 667) stated 'Another approach to overcome the weakness of the JCR JIF

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**TABLE 1** Journals' rankings based on the sleep researchers' survey responses

Rank	Journal	Ranked top three, %	Ranked highest, %	Impact factor	h5-index
1	<i>Sleep</i>	89	65	6.31	64
2	<i>Sleep Medicine Reviews</i>	61	19	11.40	78
3	<i>Journal of Sleep Research</i>	48	3	5.30	48
4	<i>Journal of Clinical Sleep Medicine</i>	30	4	4.32	51
5	<i>Sleep Medicine</i>	29	1	4.84	60
6	<i>Sleep Health</i>	12	4	4.21	37
7	<i>Sleep and Breathing</i>	11	1	2.82	38
9	<i>Nature and Science of Sleep</i>	7	1	3.38	31
8	<i>Behavioral Sleep Medicine</i>	7	1	3.49	33
10	<i>Sleep and Biological Rhythms</i>	3	1	1.39	17
11	CRANIO	1	0	1.67	25
12	<i>Dreaming</i>	1	0	2.21	17

Note: The impact factors were gathered from Clarivate's Journal Citation Reports website. The h5-index values were gathered from Google Scholar (search date: August 18, 2022).

[Journal Citation Reports Journal Impact Factor] is to measure the perceived quality or reputation of a journal. This is usually done by conducting a survey'. The aim of the present study was to investigate sleep researchers' perceptions of journals in their field to determine whether subjective rankings were in line with the impact factors of the journals.

## METHODS

Following Marshall and Hoyos (2020), we searched the Clarivate Journal Citation Reports website to identify journals containing the words 'sleep' or 'dream' in the titles with an impact factor since 2018. The search identified 12 journals (Table 1). We then developed a survey, including questions about which of the 12 sleep journals the respondent considered the three most and the three least prestigious, and which of these journals the respondent considered the most prestigious if having to choose one. The survey also included questions about the respondent's academic position and country of work. The survey was e-mailed to the corresponding authors of all articles in the 12 sleep journals' latest two issues (609 emails). Data were also gathered at the Swedish Society for Sleep Research and Sleep Medicine's (SFSS) Congress 2022. Additionally, the survey was e-mailed to all members of SFSS (370 emails).

## RESULTS

In total, 122 sleep researchers completed the survey (response rate 12.5%). The respondents worked in 29 countries, with the largest proportions of respondents from Sweden (29%), the USA (16%), Australia (12%), UK (7%), Japan (4%), and Italy (4%). The respondents' academic titles were associate professor (24%),

professor (19%), assistant professor (18%), PhD student (12%), other (12%), postdoctoral researcher (9%), and PhD (7%).

Table 1 presents the journals' rankings based on (i) the survey respondents' selection of the three most prestigious journals in the sleep field, (ii) the highest ranked journal by the respondents, (iii) the journals' current impact factors, and (iv) the journals' h5-index. Most of the respondents perceived *Sleep* to be one of the top three journals. Almost two-thirds of the respondents perceived *Sleep Medicine Reviews* to be among the top three journals, and approximately half of the respondents included *Journal of Sleep Research* in the top three. Still in terms of the top three ranked sleep journals, 30% included *Journal of Clinical Sleep Medicine*, and slightly <30% included *Sleep Medicine*.

About two-thirds of the respondents considered *Sleep* to be the highest ranked journal, followed by *Sleep Medicine Reviews*, which was ranked highest by almost a fifth of the respondents. The *Journal of Clinical Sleep Medicine* and *Sleep Health* came in third place, followed by *Journal of Sleep Research*. Looking at the impact factors of *Sleep* and *Sleep Medicine Reviews*, the opposite was found, with *Sleep Medicine Reviews* having almost twice as large an impact factor as that of *Sleep*. The *Journal of Sleep Research* came in third place. Regarding the h5-index, *Sleep Medicine Reviews* was ranked highest, followed by *Sleep*.

Some of the respondents (16%) contributed with comments on the study topic. A few commented on the fact that *Sleep Medicine Reviews* publishes only reviews:

While *Sleep Medicine Reviews* has a very high impact factor, if you do not publish reviews then it is not a journal you would rank higher than other journals, journals of international sleep societies. We send our manuscripts to journals where we think they will have the most impact and are read by our target audience. So, it

is complicated. We do not send them to the highest IF journal if that is not the audience we want to reach.

The respondents commented on the importance of the quality of each individual paper relative to that of the journal it is published in. They also commented that the status of the journals depends on the topics of the articles, as well as on where the journals are geographically based:

I find the United States based journals in general to be more applied but somewhat clannish and therefore difficult to publish in if a non-American (the exception is *Sleep Medicine Reviews*), whereas the European journals are more inclusive with a stronger emphasis on basic science.

## DISCUSSION

Overall, the correspondence was high between the impact factors, the h5-index values, and the subjective rankings of sleep journals. According to the present survey, *Sleep* is perceived as the most prestigious journal, followed by *Sleep Medicine Reviews*, and *Journal of Sleep Research*. It is clear from our study that journals with similar impact factors are perceived differently by researchers in the sleep research community. Although the impact factor seems to affect how a journal is perceived, other factors (such as the publisher and the journal's history) appear to play important roles. Researchers are likely partly driven by a sense of whether a journal is of high quality or not.

The main limitations of the present study are the small sample size and low response rate. Another limitation is that the data collection was limited to researchers who had published in at least one of the 12 journals with an impact factor in the latest two issues, and to members of the SFSS. However, there is no reason to believe that Swedish sleep researchers would rate journals differently than researchers from other countries, and nothing in the data implies any systematic differences. Furthermore, the survey only included sleep journals with an impact factor.

To conclude, sleep researchers looking for the most prestigious journals can trust the impact factors to correspond with the top three journals. For other sleep journals, the association between researchers' views and impact factors are less cohesive.

## AUTHOR CONTRIBUTIONS

Siri Jakobsson Støre and Niklas Jakobsson conceptualised the study. Niklas Jakobsson designed the survey. Siri Jakobsson Støre

was responsible for the data collection, supported by Annika Norell-Clarke. Niklas Jakobsson was responsible for the data analysis. Siri Jakobsson Støre drafted the first version of the manuscript. All authors have reviewed and edited the final version of the manuscript.

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## CONFLICT OF INTEREST

All authors declare that they have no conflicts of interest.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author.

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