

Addressing the Impact Factors of Nursing Education Journals

The focus on journal impact factors (IFs) is not abating, despite many criticisms about their use. Nursing faculty need to understand IFs, their uses and misuses, and implications when presenting their scholarship in nursing education.

Impact factors are scores based on the frequency of citations to articles in a journal during a set period of time. Currently, both 2- and 5-year IFs are calculated only for journals indexed in the Web of Science database. That database indexes more than 12,000 journals in the sciences, social sciences, and arts and humanities, but includes few nursing journals. Impact factors are published in the *Journal Citation Reports*® (*JCR*), and in the most recent *JCR* available (2012) when this editorial was written, there were 103 nursing journals in the Science Edition and 101 in the Social Science Edition. The Cumulative Index to Nursing and Allied Health Literature (CINAHL) indexes more than 3,000 journals in nursing and allied health, with 755 of them tagged as nursing journals (EBSCO Industries, Inc., 2012). Although Web of Science and CINAHL use different subject groupings, the differences in the number of journals indexed is apparent. By submitting manuscripts to only those journals with an IF, nurses limit publication opportunities for their work and for reaching audiences who can use the information in teaching, practice, and research.

In the most recent *JCR*, nursing journal IFs ranged from a high of 2.926 for *Birth: Issues in Perinatal Care* to a low of 0.027 for *Aquichan*, a nursing journal from Columbia. Because IFs are based on citation frequency, journals that publish

research, particularly in rapidly growing fields, have higher IFs and the majority of citations are made within a 2-year period. *CA-A Cancer Journal for Clinicians*, as an example, had an IF of 153.459.

Only five nursing education journals with an IF exist: *The Journal of Continuing Education in Nursing*, *Journal of Nursing Education (JNE)*, *Journal of Professional Nursing*, *Nurse Education Today*, and *Nurse Educator*. Their IFs range from 1.218 for *Nurse Education Today* to 0.562 for *Nurse Educator*. The IF for *JNE* for 2012 is 1.133 (Thomson Reuters, 2013a), which means a typical article in *JNE* was cited once in other indexed journals during the previous 2-year period.

The IFs of nursing education journals are low compared with those of biomedical journals, but they are not low within nursing as a field. The 2012 median for nursing journals was 0.875, and four of the five nursing education journals were above or close to the median. The IFs of nursing education journals also are comparable to other education journals. In the Science Edition of *JCR*, journals in the Education, Scientific Disciplines category ($n = 34$) had a median IF of 0.945; two of the nursing education journals were higher than this median (Thomson Reuters, 2013a). In the Social Science Edition, journals in the category Education and Educational Research, with 216 journals indexed, had a median IF of 0.645. All but one of the nursing education journals were above this median (Thomson Reuters, 2013b).

Journals that publish research reports and are geared to scientists tend to have higher IFs, and many of the nursing jour-

nals with high IFs mainly publish research papers. We also know from bibliometric studies, which examine citing behaviors and other patterns of publication within a field, that journals that publish review articles and articles with long reference lists tend to have higher IFs. In a study by Althouse, West, Bergstrom, and Bergstrom (2009), articles with a large number of references contributed the most to increasing the journal IF over time. *Nurse Education Today*, with the highest IF among the nursing education journals, also has the largest number of articles that could be cited and publishes articles with long reference lists. In 2012, that journal published 143 citable articles with a mean of 33.1 references per article and 14 reviews with a mean of 45.2 references per review article. In 2012, the *Journal of Nursing Education* published 99 articles, with a mean of 24.5 references, and six reviews, with a similar number of references ($M = 47.5$) as *Nurse Education Today*. *Nurse Educator* publishes articles with shorter reference lists: in 2012, it had 48 citable articles, with a mean of 16.8 references per article, and no review articles. The number of references should be appropriate for the type and content of the article. Although 50 references might be expected for a research report, it is unlikely that number would be necessary to support ideas in a short article describing a clinical teaching strategy.

Impact factors were developed for use by librarians to guide decisions about journals to include in library collections and by researchers to compare and select journals. However, IFs have evolved into a measure for evaluating the quality of the journals themselves and the works

published within them. Keep in mind that IFs are based only on the number of citations to articles in a journal. IFs do not reflect the quality of the article in the journal nor its impact on teaching. The IF of a journal also does not indicate whether a particular article was highly cited, only the citation rate of the journal as a whole.

In some countries, the IFs of the journals in which faculty publish are used for making funding decisions, rewarding researchers who publish articles in high-impact journals, and recruiting and hiring faculty (Cameron, 2005). In some educational settings, IFs are being used for evaluating the performance of faculty—including nursing faculty—for appointment, promotion, and tenure. Nursing faculty members are asked to submit the IFs of the journals in which they publish. However, with that practice, the journal IF is being used as a measure of quality of the individual article published in it. This is a misuse of IFs, as they were never intended for this purpose and are not appropriate for this use.

In settings where this occurs, we offer the following advice to nursing faculty. When preparing your portfolio, you should explain the current state of IFs in nursing (i.e., with few nursing journals on the list) and why a particular journal was the best one to disseminate your work. If you publish in nursing education journals, you can include an explanation that although the journals' IFs may seem low, four of the five journals are above or close to the 2012 median for nursing journals and most are comparable to other education journals. You should search for citations of your own publications in the Web of Science database and also in PubMed, CINAHL, other

EBSCO subject databases, Scopus, and Google Scholar. Review the types of articles that have cited your work, even if few in number, and explain in your portfolio how your research findings and ideas have been used for developing educational innovations and changing teaching practices. This kind of review would provide evidence of the impact of your publications, in contrast to the IF of the journal.

A critical need exists in nursing education, and nursing as a field, for bibliometric research to understand the citing behaviors of nurse authors (Oermann, Shaw-Kokot, Knaf, & Dowell, 2010). Studies of the nursing education literature would enable us to better interpret IFs. Some of the questions to be answered include: What types of documents (articles, chapters, books, gray literature, Web sites) are cited in nursing education articles and thus used to develop the nursing education literature? To what other fields is it similar, providing some base of comparison when interpreting IFs? Because IFs are determined by the number of citations within a 2- or 5-year period, we need to know how long it takes for nursing education articles to be cited. We may learn that more citations are generated within a 5-year period of time than within 2 years; thus, the 5-year IF is better for nursing education journals.

One final question is, what is the influence of general and higher education publications in developing the nursing education literature? This guest editorial is our call for bibliometric studies of the nursing education literature and for graduate programs in nursing to prepare doctoral students to conduct this type of research.

References

- Althouse, B.M., West, J.D., Bergstrom, C.T., & Bergstrom, T. (2009). Differences in impact factor across fields and over time. *Journal of the American Society for Information Science and Technology*, *60*, 27-34. doi:10.1002/asi.20936
- Cameron, B.D. (2005). Trends in the usage of ISI bibliometric data: Uses, abuses, and implications. *Libraries and the Academy*, *5*, 105-125. doi:10.1353/pla.2005.0003
- EBSCO Industries, Inc. (2012). *Cumulative Index to Nursing and Allied Health Literature*. Retrieved from <http://www.ebscohost.com/biomedical-libraries/the-cinahl-database>
- Oermann, M.H., Shaw-Kokot, J., Knaf, G.J., & Dowell, J. (2010). Dissemination of research into clinical nursing literature. *Journal of Clinical Nursing*, *19*, 3435-3442. doi:10.1111/j.1365-2702.2010.03427.x
- Thomson Reuters. (2013a). *Journal Citation Reports. 2012 JCR Science Edition*. New York, NY: Thomson Reuters.
- Thomson Reuters. (2013b). *Journal Citation Reports. 2012 JCR Social Science Edition*. New York, NY: Thomson Reuters.

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