Letter to the Editor

Modesty-index

Franceschini, Galette, Maisano, and Mastrogiacomo (in press) defined a new bibliometric index representing the scientific output of a scientist:

$$success\text{-index} = \sum score_i \tag{1}$$

where the sum is taken over all publications of a scientist, and $score_i = 1$ when the number of citations received by the publication i is greater than the median number of citations received by all articles published in the same journal and in the same year, and $score_i = 0$ otherwise. The papers published in the same journal and in the same year were selected as a representation of the "scientific neighborhood" of the article i, and their median number of citations represents the number of citations, an article from the same scientific discipline is likely to have received.

The significance of the above approach is strongly affected by the existence of groups of journals, which publish articles on the same relatively narrow topic, and which differ chiefly in their impact. For example the following journals:

- Langmuir (IF about 4 over the recent 5 years),
- Journal of Colloid and Interface Science (JCIS, IF about 3), and
- Colloids and Surfaces A (COLSUA, IF about 2).

are all devoted to surface and colloid chemistry. Very often, manuscripts rejected by Langmuir, are successfully re-submitted to JCIS or COLSUA. There are several lower-IF journals (IF of about 1), not necessarily focused on surface and colloid chemistry which absorb manuscripts rejected by Langmuir, JCIS or/and COLSUA. The above observations are based on personal experience of the present author as a frequent referee in Langmuir, JCIS and COLSUA. Similar groups of journals exist in fields other than surface and colloid chemistry.

The paper's score defined above favors publications in low-impact journals (the median number of citations received by all articles published in the same journal and in the same year is low) over publications in high-impact journals. Therefore, assuming that the citation number is primarily due to the quality of the paper (rather than to the reputation of the journal), the *success*-index defined in Eq. (1) favors the authors who tend to publish in low-impact journals over those who tend to publish in high-impact journals. This dependence can be illustrated by the citation record of an anonymous computer scientist S2 (Table 2, Franceschini et al., in press). Table 1 summarizes those papers of S2, in which the score defined by Eq. (1) was different from the score defined in a paper by Kosmulski (2011). In that paper, the $score_i = 1$ when the number of citations received by the publication i is greater than the number of references in that publication, and $score_i = 0$ otherwise.

Table 1 indicates that Eq. (1) favors papers in low-impact journals (12, 17, 17, and 12 in the 2nd column of Table 1) over papers in high-impact journals (38, 25, 23, 31, 38, 16, 19 in the 2nd column of Table 1).

There are different reasons why scientists publish their papers in low-impact journals, and rejection of a manuscript from a high-impact journal may be one of them. However, some scientists may deliberately submit to low-impact journals without having tried a high-impact journal first. Such modest scientists will be awarded by a high *success*-index, while self-confident scientists who succeed from time to time in having published a low-impact article in a high-impact journal (cf. articles #7 and 13 in Table 1) will be punished.

The *success*-index defined by Franceschini et al. (in press) should rather be called modesty-index since it primarily rewards publication of high-impact articles in low-impact journals.

Most scientists are nearly equally self-confident (they tend to overrate rather than underrate the quality of their manuscripts) and their *success*-index is highly correlated with other indices representing the scientific output of a scientist, but a hypothetical very modest scientist would be unduly rewarded by the *success*-index.

Table 1
Selected papers of S2. Data from Table 2, Franceschini et al. (in press).

Rank in citations number	*	Score (Kosmulski, 2011)	Score (Eq. (1))
3	12	0	1
4	17	0	1
5	17	0	1
7	38	1	0
8	25	1	0
10	23	1	0
11	31	1	0
13	38	1	0
14	12	0	1
16	16	1	0
18	19	1	0

[*] Median number of citations received by all articles published in the same journal and in the same year.

References

Franceschini, F., Galette, W., Maisano, D., & Mastrogiacomo, L. The success-index: An alternative approach to the h-index for evaluating an individual's research output. *Scientometrics*, doi:10.1007/s11192-011-0570-z, in press.

Kosmulski, M. (2011). Successful papers: A new idea in evaluation of scientific output. *Journal of Informetrics*, *5*(3), 481–485.

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