

Review of: "Measuring researchers' success more fairly: going beyond the H-index"

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I have read with great pleasure the article *'Measuring researchers' success more fairly: going beyond the H-index'* and am certainly positive about the value it adds to measuring research performance. However, I believe that the article (along with its contribution to the field) should be better contextualized. First, the importance of research is justified that assessments of research performance are governing nowadays promotions in academic (or research) ranks, and funding of research, in its broader sense (selection of grants to be funded, assessing the effectiveness of implemented grants, benchmarking in general). For the purpose of comparisons, qualitative measures are hard to use and most people and organizations rely on metrics. However, the use of metrics to assess research performance is subject to many limitations. Let us limit the quest to individual performance. First, the activity of a researcher has many facets, including the ability to conduct research (measured by funded grant proposals), the impact of research (publications and their impact), and ultimately the recognition (reviewing publications and grant proposals, awards etc.) Here, we must limit again our discussion to publications.

By doing so, first we talk about their value and impact. The value depends, as Patience (2023 - <https://doi.org/10.32388/3OJYK1>) said, on measures like the impact of journals where articles are published, but also on the individual contribution of each author to the paper. The CREDIT taxonomic systemic provides an alternative way to assess it, but this alternative is qualitative. It can help knowing in what part of the research process was each author involved, but there is no way of turning it into a quantitative way of saying, for example, that Author A contributed 60% to a paper. Moreover, as pointed out by Patience (2023 - <https://doi.org/10.32388/3OJYK1>), the order of authors is irrelevant, as, depending on particular local conventions, the main author can be the first or last ones, and different systems emphasize the role of different contributors, such as the corresponding one in Romania. The issue is even more complex when talking about the research impact. It is generally acknowledged that research has scientific, economic, and societal impact (see Okukpujie et al., 2018 - <https://doi.org/10.1088/1757-899X/413/1/012060>, and Fayomi et al., 2018 - <https://doi.org/10.1088/1757-899X/413/1/012002>). While the economic impact can relatively easily be converted to its monetary value, not all research has necessary an economic value. Attempts to measure the societal value are in place; see, for example, Altmetric (Priem et al., 2010 - <http://altmetrics.org/manifesto>). Here, we must limit again our quest to measuring the scientific impact. And, for the purpose explained before, we must also limit its measurement to quantitative approaches. In these settings, people would generally agree that we must rely on published articles and their citations. Nevertheless, all the above indicate that this is actually only a very small part of the "research performance", and all its caveats relate to the fact that we deliberately ignore many facets of the multifarious "research performance". For example,

recently there were many attempts to acknowledge the peer review activity; I am mentioning only Publons, which was adopted by the Web of Science and integrated in the Clarivate platform, or the Scope initiative (<https://scope.directory/#about>).

Limiting our discussion to measuring the scientific impact of research based on citations, two measurements are used: the impact factor (including its Scopus equivalent) and Hirsch index. Gracza and Somoskövi (<https://doi.org/10.1556/OH.2007.27942>) compare the two; generally, individual performance can be measured easier by the Hirsch index. However, there are many shortcomings to it, such as invariance to the age and research experience of researchers, field of research and many others, issues not addressed by the current article (Batista et al., 2006 - <https://doi.org/10.1007/s11192-006-0090-4>).

In a nutshell, the merits of this article should be seen in the very particular context of measuring the *research performance* of individual researchers based only the scientific impact of their publications. I am not trying to diminish the contribution, which may be similar in nature with the creation of the Web of Science Article Influence Score as a replacement of the Impact Factor, which may be affected by a short period of showing the impact, auto-citations at different levels (author, journal, or publisher), and invariance with respect to citations in publications with different overall impact. Therefore, adjusting the Hirsch index to differentiate the contribution of different authors may be beneficial for assessments based on the Hirsch index, but measuring the research performance still needs more research to improve itself.