



# Don't put the greatest pressure on the weakest

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## Abstract

Shortcomings in the area of open-access publishing are repeatedly criticized and discussed in the scientific community. Meanwhile, there are initiatives such as the DORA declaration, which aim to implement improvement and sustainability at specific points of the system. Regrettably, it can be observed at the same time that corresponding intentions are only partially realized. Simultaneously, status groups such as Ph.D. students, which are comparatively low in the science system, bear a burden or dilemma: All too often, they have to choose between improving their own career prospects and what can be called sustainable and good scientific practice. However, such decisions should not be imposed on those who hold a lower and insecure position in the scientific system. Rather, decision-makers at scientific institutions must finally begin to implement the DORA recommendations consistently or renounce them.

**Keywords** Open access · DORA · Scientific practice · Ph.D. students

**JEL Classification** Z00

Science makes new knowledge available to the world. Independent, high-quality, fundamental, or directly relevant to practice, and freely accessible. This is at least the assumption of the ideal scenario. Nowadays, there is an almost overwhelming number of publishing platforms, publishers, and journals that focus on different subjects and offer the opportunity to share the knowledge gained with the world. But the practices of some publishers are criticized (e. g., Ángeles Oviedo-García, 2021; Horbach et al., 2022), and the question arises of which group of the scientific community actually has to deal with these criticisms. My view is that Ph.D. students, in particular, as a group that ranks comparatively low in the scientific system, are the ultimate victims of the failures of publishing houses and universities. But what does the criticism against certain publishers actually consist of?

After similar allegations were made earlier, accusations against the practices of well-known publishers flared up again recently (Ángeles Oviedo-García, 2021; Horbach et al., 2022; Publication Ethics of MDPI, 2021). In particular, the model of open access, which

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can undoubtedly be seen as positive for science, but is apparently not only secondarily economically motivated, comes into focus and criticism here, although it is seen as a central feature of transparent scientific practice (Banks et al., 2016). At the core of this is the question of whether certain publishers can still guarantee fundamental scientific principles in the face of enormous publication numbers in regularly published journals and special issues. Critics of this practice see pressure on reviewers, extremely rapid review processes, the possibility of withholding review reports, and the management of the entire process by insufficiently qualified editors as an indication that the scientific quality of the publications is no longer the uppermost priority. If an author cannot rely on his or her findings and texts being thoroughly and expertly reviewed in a reasonable amount of time, this makes peer review processes and high publication fees obsolete. Here the fact that most publishers make money with every published paper could be seen as the cause of all alleged evil (Amrein, 2022).

These qualitative shortcomings are initially nothing that would exclusively affect Ph.D. students, but the scientific system as a whole should be worried about. And indeed, there are now comparatively large initiatives that want to bring about certain changes. Increasingly, universities and other research institutions are committing themselves to the San Francisco Declaration on Research Assessment (DORA, 2012), which calls for a shift away from quantitative performance measurement of scientific output. Sometimes this commitment seems to be no more than mere lip service—substantial effects on the whole system are missing, as so far only a few scientific institutions consistently apply DORA and thus act as positive examples (e. g., Gossink-Melenhorst, 2019; Kip & Dirnagl, 2019), although concrete suggestions for change exist (Bornmann & Marewski, 2019). In fact, I am not personally aware of a single scientist who, with regard to his or her own application or the review of other people's applications to a scientific institution, has had the experience that the mere number of publications or their impacts/rankings do not matter at all. On the contrary, the question of whether and how many publications are completed during the doctorate still seems to be a hard determinant for academic success (Abele-Brehm & Bühner, 2016; Horta & Li, 2022; Horta & Santos, 2016). The shift away from quantitative numerical parameters, as advocated in DORA (very specifically in demands no. 1, 4, 15 and 17 [DORA, 2012]), remains (so far) no more than an empty promise in the field. This means that large parts of the system are aware (or at least could be aware) of the problems at major publishers, and announce that they will reduce the pressure, e. g. with regard to quantifiable performance measurement, but ultimately do not change anything. This, in turn, can only leave the actors in the system disoriented and place the responsibility on the shoulders of the individual, in many cases, Ph.D. students. Given the large share of international publications for which Ph.D. students are responsible as first authors (Larivière, 2012), this does not seem to be an individual problem but rather an overall scientific challenge. In the worst case, an individual decision can then fall back on these persons in all severity, as a hypothetical example illustrates.

The formerly largest journal in the world—"International Journal of Environmental Research and Public Health"—lost its Web of Science listing at the beginning of this year (MDPI, 2023), and thus its Impact Factor (in addition to massive image damage) formally. The official reason given for this was that articles off the scope had been published (Brainard, 2023; Clarivate, 2023). It is certainly conceivable that this is a consequence of the factors listed above as points of criticism (e. g., unqualified editors or review procedures that were carried out too quickly). This alone may seem to outsiders to be a very science- or even subject-specific problem, but it has potentially very concrete and, in individual cases, even catastrophic consequences. Suppose a Ph.D. student

had published in this journal one of his or her articles central to a cumulative dissertation. Since the day of de-listing, his or her article would be on the same level as papers that are not listed in Web of Science due to publication, for example, in journals without any peer review. In most universities certain criteria must be fulfilled by publications before a person is awarded a Ph.D. These criteria often include aspects such as the international character of a journal or an obligatory peer review process. Often, however, there are also criteria that refer to a certain Impact Factor, which already in general is fundamentally contrary to the demands of DORA. The hypothetical Ph.D. student would then be left with a publication which, in the worst case, is "useless" with regard to the doctorate. It should be said at this point that this is by no means purely hypothetical: first universities explicitly exclude publications from several major publishers when evaluating young scientists (ForeignFriends, 2023). It cannot be ruled out that the hypothetical Ph.D. student, in the years prior to publication, was on part-time contracts that may have been renewed only on a monthly basis, volunteered to teach at his or her faculty, and wrote research proposals on his or her own to secure employment beyond the time of the Ph.D. Perhaps the reason for the decision of submitting to the mentioned journal was the time pressure and the short processing time of the journal alongside a comparatively high Impact Factor (here the mentioned journal was explicitly known for). He or she might have considered the submission to the mentioned journal only as a formality before the completion of an energy-sapping Ph.D. phase. Of course, the hypothetical Ph.D. student was aware of the aforementioned discussions, after all, corresponding accusations existed at least since 2014 (Beall, 2014)—even if a collapse of the journal was not foreseeable at the time of the submission. He or she thus found himself or herself in a dilemma situation: completing the doctorate quickly in a potentially precarious employment situation or acting for the good of science—which in this case would have meant foregoing submission to the aforementioned journal and instead submitting to one with a potentially months-long waiting period. Or: The decision between quick publication with a high impact factor in a very well-known journal or a lengthy publication process with a focus on high quality and detailed review without the ulterior motive of individual performance data such as number of publications and Impact Factors.

However, the system has many features that cannot be solved so easily, or at least not in the short or medium term, e. g., the dependence on third-party funding, which almost always results in fixed-term employment contracts. It is therefore only possible to a limited extent to take the time pressure off Ph.D. students. However, if one were to take the demand of DORA as a university, research society or faculty really seriously, this could at least reduce the pressure that comes from quantitative performance data such as the number of publications or the Impact Factor. There is often talk of a "scientific community". The origin of the word "community" (a group of people who share the same values and pursue a common goal [Cambridge Dictionary, 2022]) implies that all scientists are pulling together, regardless of their experience and hierarchical position in the system. Is it fair, then, to impose on those struggling daily to survive as young scientists decisions that may be at the expense of their own careers but following an idealistic commitment to a more sustainable publication system for the good of science? Under the current system, Ph.D. students are confronted with exactly this dilemma, whereby the option of choosing the more ethical or sustainable path is made even more difficult for them by current practice, while a decision in favor of the supposedly easier (albeit questionable) "path of fast and numerous publications" can in turn harm them as well, as the example of the hypothetical Ph.D. student shows. Rather, the large institutions of the system should take this burden off

the shoulders of young scientists, as they commit themselves to explicit principles such as DORA, and place themselves protectively in front of them in the sense of a real community: Don't put the greatest pressure on the weakest.

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