



Suggested reviewers: friends or foes?

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Abstract

Peer review, a core element of the editorial processing of manuscripts submitted for publication in scientific journals, is widely criticized as being flawed. One major criticism is that many journals allow or request authors to suggest reviewers, and that these ‘preferred reviewers’ assess papers more favorably than do reviewers not suggested by the authors. To test this hypothesis, a retrospective analysis was conducted of 162 manuscripts submitted to the *Journal of Comparative Physiology A* between 2015 and 2021. Out of these manuscripts, 83 were finally rejected and 79 were finally accepted for publication. In neither group could a statistically significant difference be detected in the rating of manuscripts between reviewers suggested by the authors and reviewers not suggested by the authors. Similarly, pairwise comparison of the same manuscripts assessed by one reviewer suggested by the authors and one reviewer not suggested by the authors did not reveal any significant difference in the median recommendation scores between these two reviewer types. Thus, author-suggested reviewers are not necessarily, as commonly assumed, less neutral than reviewers not suggested by the authors, especially if their qualification and impartiality is vetted by the editor before they are selected for peer review.

Keywords Editor · Peer review · Preferred reviewer · Research evaluation · Scientific publishing

Introduction

Many journals, including the *Journal of Comparative Physiology A*, allow or even request authors, as part of the submission process, to suggest potential reviewers (often referred to as ‘preferred reviewers’) for assessing the merits of their manuscript. Whereas editors are not bound to choosing reviewers from this list, many routinely make use of these recommendations. However, author-suggested reviewers are only one of several sources from which editors select reviewers. Others are experts they know personally; members of the journal’s advisory board; authors of articles cited in the submitted manuscript; authors identified through searches in scientific literature databases, such as PubMed or Web of Science; names of past reviewers stored in editorial management systems; and individuals suggested as alternate

candidates by reviewers who declined the editor’s invitation for review.

While authors might frequently have a more intimate knowledge of experts in their fields than editors, there is no question that they have little interest in suggesting reviewers whom they suspect will provide negative reviews of their papers. The assumption of such a bias in the authors’ recommendation of potential reviewers is in line with studies reporting that author-suggested reviewers rate manuscripts frequently more positively than editor-selected reviewers (Schroter et al. 2006; Bornmann and Daniel 2010; Helton and Balistreri 2011; Moore et al. 2011; Kowalczuk et al. 2015; Fox et al. 2017), and thus increase the chances that a paper will be published. Similar concerns have been raised in terms of the assessment by applicant-nominated referees of research grant proposals, characterizing their ratings as “biased, inflated, unreliable, and invalid” (p. 33; Marsh et al. 2007) and leading the Australian Research Council to abandon the use of reviewers suggested by grant applicants.

It is unclear how much the results of the above studies on potential author-suggested-reviewer bias can be generalized to other journals and funding agencies, and, in particular, whether the possibility of suggesting reviewers has benefited some authors of the *Journal of Comparative Physiology A*.

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Addressing the latter question is especially important when considering whether the option that authors can suggest reviewers should be maintained in the future.

Analysis

To examine whether the recommendations of author-suggested reviewers differed from those not suggested by the authors, I carried out a retrospective analysis of 162 manuscripts submitted via Editorial Manager to the *Journal of Comparative Physiology A* between 2015 and 2021. In each of these submissions, a decision by the Editor-in-Chief was made after peer-review by two reviewers. Submissions in which only one reviewer, or more than two reviewers, had been consulted were not included in this analysis, as were submissions in which a ‘reject’ decision had been made without peer-review. (The latter ‘reject-without-peer-review’ procedure is common practice in the case of manuscripts that clearly do not meet the minimum requirements for publication, based on initial review by the Editor-in-Chief.) I was not involved as Editor-in-Chief in any of the final decisions. After anonymizing all data used for analysis, the nominal recommendations by the reviewers were transcribed into ordinal scores using the following scale: 0 = reject; 1 = major revision; 2 = minor revision; 3 = accept.

In 135 (= 83%) of the 162 submissions analyzed, the author(s) suggested potential reviewer(s) (range 1–8 reviewers; mean 3.3 reviewers; median 3 reviewers). There was no significant difference in the number of suggested reviewers (including cases in which no reviewer was suggested) between submissions that were finally rejected and submissions that were finally accepted for publication (Mann–Whitney U Test, $U = 2780$; $p = 0.088$, 2-tailed; $N_1 = 83$ rejected manuscripts; $N_2 = 79$ accepted manuscripts).

To evaluate possible differences in recommendations made by reviewers suggested by the authors and by reviewers not suggested by the authors, submissions were analyzed separately for the two different final decisions made by the Editor-in-Chief, ‘reject’ or ‘accept’. A total of 83 submissions were analyzed for which a final ‘reject’ decision was made. Out of the 166 reviewers involved in the peer-review of these manuscripts, 44 had been suggested by the author(s), whereas 122 had not been suggested by the author(s). The median recommendation scores were identical in each of the two reviewer groups (0 = ‘reject’). The score distributions in these two groups did not differ significantly, as shown by the Mann–Whitney U Test ($U = 2418$; $p = 0.247$, 2-tailed; Fig. 1a).

In the submission group that resulted in a final ‘accept’ decision, a total of 79 manuscripts were analyzed. Out of the 158 reviewers involved in their peer-review, 69 had been suggested by the author(s), whereas 89 had not been suggested by the authors. The median recommendations made during the initial round of review (ignoring

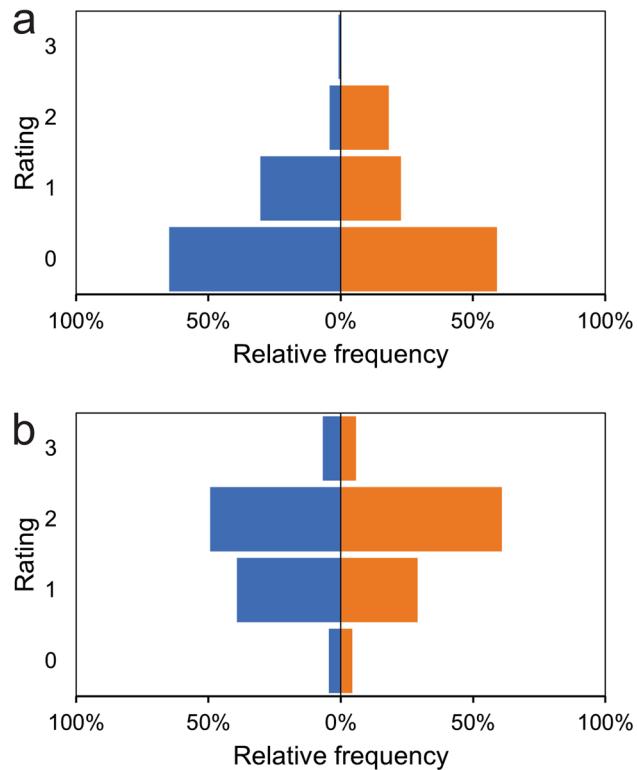


Fig. 1 Comparison of relative frequencies of ratings by reviewers not suggested by authors (blue) and by reviewers suggested by authors (orange). **a** Manuscripts ($N=83$) were finally rejected. **b** Manuscripts ($N=79$) were finally accepted for publication. Ratings of the reviewers’ recommendations: 0 = reject; 1 = major revision; 2 = minor revision; 3 = accept

possible subsequent rounds of review) were identical in each of the two reviewer groups (2 = ‘minor revision’). A Mann–Whitney U Test showed that the distribution of the recommendation scores in these two groups did not differ significantly ($U = 2799$; $p = 0.288$, 2-tailed; Fig. 1b).

The comparison of the recommendation scores of suggested reviewers *vs.* non-suggested reviewers provides indication of similar overall trends of these two groups in their assessment of submitted manuscripts but does not compare how a suggested reviewer and a non-suggested reviewer score the same manuscript. Such a comparison was carried out by selecting from the data used above only those submissions in which the same manuscript was evaluated by 1 suggested reviewer and 1 non-suggested reviewer. Using this subset, a Wilcoxon Signed Ranks Test did not detect a statistically significant difference in the median recommendation scores between suggested and non-suggested reviewers in this subcategory, both for submissions that were finally rejected ($Z = -0.568$; $N = 30$; $p = 0.565$, 2-tailed; Fig. 2a) and for submissions that were finally accepted ($Z = -0.645$; $N = 33$; $p = 0.508$, 2-tailed; Fig. 2b) for publication by the Editor-in-Chief.

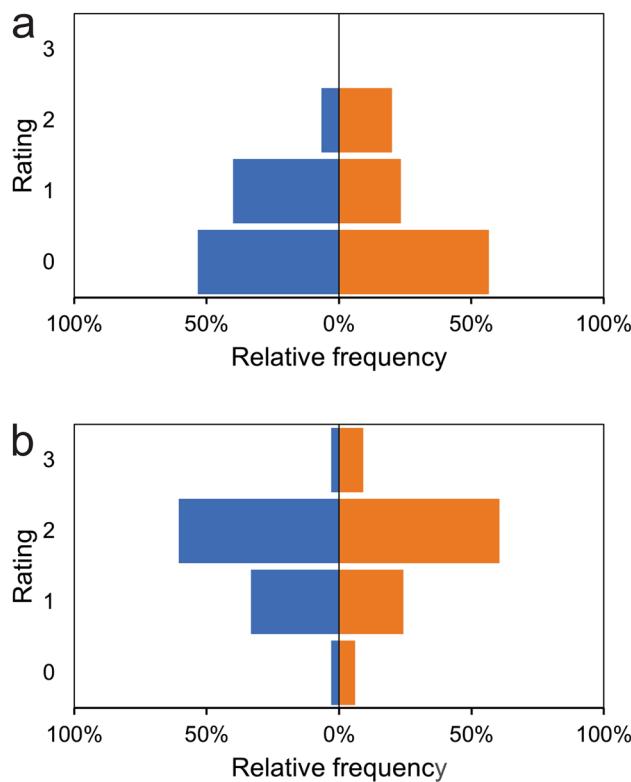


Fig. 2 Comparison of relative frequencies of ratings of the same manuscript within pairs of reviewers not suggested by authors (blue) and reviewers suggested by authors (orange). **a** Manuscripts ($N=30$) were finally rejected. **b** Manuscripts ($N=33$) were finally accepted for publication. Ratings of the reviewers' recommendations: 0 = reject; 1 = major revision; 2 = minor revision; 3 = accept

Discussion

The results of this analysis are, at first sight, surprising, as they contradict the intuition that author-suggested reviewers are more likely to make a positive recommendation than do editor-selected reviewers. This notion appears to receive support by studies in a variety of disciplines, including medicine (Schroter et al. 2006; Helton and Balistreri 2011; Moore et al. 2011; Kowalcuk et al. 2015), ecology (Fox et al. 2017), and earth science (Bornmann and Daniel 2010).

However, a closer look at these studies reveals a more differentiated picture. For example, Kowalcuk et al. (2015) found that for each of three BioMed Central journals evaluated (*BMC Infectious Diseases*, *BMC Microbiology*, and the *Journal of Inflammation*), author-suggested reviewers were significantly more likely to recommend acceptance. Yet, this difference was evident only in the reviewer's final recommendation. A detailed analysis of their reports using an established Review Quality Instrument showed that they were of comparable quality to those of non-author-suggested reviewers.

When Moore et al. (2011) compared recommendations by author-suggested reviewers to those of editor-selected reviewers on all manuscripts submitted to the *Journal of the American Society of Nephrology*, they found that the former reviewers are more likely to recommend publication than the latter. However, this difference disappeared when the ratings of author-suggested and editor-selected reviewers were compared within the same manuscript.

In the highly cited study by Schroter et al. (2006), editors of 10 biomedical journals were instructed to choose reviewers in the usual manner, but journal administrators then requested additional reviews from the list of reviewers suggested by the author(s) who had *not* been selected by the respective editor. While the evaluation indicated that author-suggested reviewers were more likely to make a favorable recommendation in journals with a single-blind review system (i.e., reviewers know who the authors are, but the authors do not know who the reviewers are), the final editorial decision to accept or reject a paper was evenly balanced.

Conclusions

The two outcomes of the Schroter et al. (2006) study mentioned above are particularly instructive. First, differences in the rating of author-suggested reviewers and reviewers not suggested by the authors became apparent only when reviews were requested from author-suggested reviewers whom the editors had *not* selected for the peer review. Second, since the final decision on acceptance or rejection of manuscripts resided with the editors of the journals studied (as is the case for all the journals I know), their assessment minimized possible bias of author-suggested reviewers. Thus, besides its more popularized negative findings, a notable conclusion can be drawn from the study of Schroter et al. (2006): As long as editors (1) vet reviewers suggested by authors and invite for review only those that pass this initial test, and (2) critically assess the review reports submitted by reviewers (both those suggested by authors and those not suggested by authors), an astounding consistency can be achieved in the ratings between the two types of reviewers.

Despite these encouraging implications, what has been widely publicized from this and other studies is the differences found between author-suggested and non-author-suggested reviewers, even if these differences became evident only after deviating from the normal editorial evaluation protocol. Given these constraints, it is surprising how many studies, opinion pieces, and comments on social media have echoed the conclusions of Smith (2006) who has called peer review "a flawed process full of easily identified defects with little evidence that it works" (p. 182).

The retrospective analysis of reviews of manuscripts submitted to the *Journal of Comparative Physiology A* has, contrary to intuition and the analysis of studies of other journals, not revealed any significant difference in the ratings between reviewers suggested by the authors and reviewers not suggested by the authors. This holds true for both comparison of reviews submitted by these two groups in general, and for comparison of reviews of the same manuscripts within a pair of reviewers.

It is important to note that my analysis does not provide any information about whether the same outcome would be achieved if every author-suggested reviewer had submitted a review—as it does not tell us anything about the quality of the review process if the editor had invited reviewers not suggested by the author(s), without assessing their credentials for conducting the review. However, both scenarios are irrelevant for the current discussion, as Handling Editors and the Editor-in-Chief always consider the qualifications and impartiality of a potential reviewer, whether suggested by authors or not, for carrying out the review.

As a key conclusion, the retrospective analysis underscores the impartiality of reviewers, and the critical role that editors play in safeguarding the neutrality of the peer-review process. Authors who submit their work for publication in the *Journal of Comparative Physiology A* can thus be assured of a fair review process. Although a suggestion of potential reviewers is not a condition for submission of manuscripts, we continue to encourage authors to provide us with the names of experts who are qualified for evaluating the merits of their research.

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Author contributions Acquisition and analysis of review data: GKHZ; preparation of figures: GKHZ; drafting, review, and editing of manuscript: GKHZ.

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Data availability All data used for analysis are available from the author upon request.

Declarations

Competing interests The authors declare no competing interests.

Conflict of interest GKHZ has been Editor-in-Chief of the *Journal of Comparative Physiology A* since January 1, 2022. He was not involved in the final decision of any of the manuscript submissions analyzed in this paper.

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