

Royal Society Publishing's survey on peer review experiences (Peer Review Week 2021)

To explore the theme of 'Identity in peer review' for this year's [Peer Review Week](#), we surveyed research scientists about their experience of peer review. The survey was issued in August 2021. It was shared on social media and via mailings to Royal Society contacts. It was open to anyone to respond to. The results shown below include the answers to multiple choice questions, and quotes from answers to open-text questions. Some responses were edited or removed to reduce repetition and where answers did not properly match the question (for example, written from the view of an author rather than reviewer).

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Overview

A huge 89% of respondents indicated that reviewing adds to their personal feeling of identity within the research community. When researchers are given enough time to review interesting papers that are within their abilities and expertise, reviewing can be a rewarding experience. This is especially true when the process is collaborative and constructive and results in a better paper.

Here are our take-home messages:

- **Time is the biggest barrier to review, and the burden is disproportionately loaded onto a small set of people**

A common factor that was found to limit contribution to the peer review process was time.

“Time, time, time, time. Peer reviewing properly takes time. I love it but especially now there is no time. Also, the university does not value it.”

“I do think that more junior researchers can be meaningfully involved in the peer review process more than they traditionally have been—this will help lighten the load on reviewers who receive too many requests.”

- **Early career researchers are not being involved early enough**

Over half of our survey respondents started reviewing at PhD stage or earlier, however the remainder didn't get invited until they were postdocs or even principal investigators. Clearly there is a section of researchers who are over worked and another section who are failing to get a foothold as a peer reviewer. There is a proportion of early career researchers, often with English as a second Language (ESL), that could be engaged at an earlier stage to spread the load and privilege of peer review more evenly. The responsibility for this lies both with the publishers and Editors in selecting reviewers, but also with senior academics to make sure that their students and more junior colleagues are being suggested.

“As a mature academic, I have used my opportunities to hand it down to my younger peers so that they can receive the same experience and build up their personal confidence. Publishers could also add a line in their invitations to encourage invitees to nominate their younger colleagues for the task.”

- **Co-reviewing is an important first step into peer review**

Interestingly over half of respondents reported to have been first invited to peer review as a direct result of an academic connection, most often co-reviewing with a supervisor. It's clear that who you know and who chooses to support your career are important factors in a researcher's journey into peer review.

“I co-reviewed with my supervisor, and it was a good exercise for logic training and I gained more experience how to draft my own manuscript.”

Not all publisher review systems easily allow for co-reviewing so publishers could correct this and encourage co-reviewing with an editorial policy.

- **Guidance and support for new reviewers needs improving**

Over half of respondents indicated it was not completely clear what was expected of them in the early stages of being a reviewer. Of the main challenges of being a new reviewer, the most often cited was self-confidence; followed by figuring out how to write a good review that was fair, at the right level of detail and conveying the right tone. The responses showed that those who experienced co-review felt well-supported while the rest were left to figure it out with little or no support.

“Insecurity, learning to describe the general concerns in constructive ways without necessarily trying to find solutions. Reviewing took very long and it was emotionally exhausting too, I felt great responsibility to get it “right”.”

“My main challenge was not understanding the scope of a review: I was way too thorough, picking at every issue, no matter how small.”

Journals should ensure that clear, journal-specific guidance is provided to reviewers, including clear information about decision options. Reviewers would also appreciate having access to good reviews as examples.

“Journals should provide guidance on journal expectations and the relative role of the reviewer versus the editor in decisions. This seems to vary widely, which make the role of the reviewer variable.”

Several respondents mentioned that a code of conduct for reviewer conduct is essential, indicating that researchers are still experiencing bad behaviour in the system.

- **Reviewers need to feel more valued**

A number of respondents raised the issue of recognition. Over half of respondents thought that more should be done to make peer reviewing a larger part of an individual's academic identity, akin to a publication record.

“There is a much higher expectation to publish rather than review and reviews hold little weight in my academic department.”

“Some form of compensation (even if it is access to a journal for a month or acknowledgement of reviewers on a journal website) would be helpful. Something to refer to on my annual productivity report.”

However, there are also concerns about this:

“Peer review could be rewarded with greater 'credit' for having done it, but honestly, I fear that doing this will just add another layer of compulsory burden and stress. It could help people make time for peer review but at what cost? Would it just become another thing against which we can be measured and found wanting? I think the stress of having to have a productive and high impact peer review record alongside my productive and high impact paper output record and my productive and successful graduate student output record, not to mention my productive, high impact, undergrad teaching record - I think it would kill me and many others. We really need to be careful with this.”

- **The role of the Editor is extremely important in the reviewer's experience**

Worrying, several respondents reported negative experiences relating to the behaviour of Editors, such as ignoring their comments or concerns. This detracts from reviewers' satisfaction in the process. Publishers must train their Editors to ensure that they are behaving in a fair and justifiable manner to both authors and reviewers.

“My worst experience involved reviewing a paper and providing what I thought was a strong justification for rejection. The paper was then accepted after a second round of reviews for which I was not invited.”

There is also a responsibility for journals and Editors to assess papers to ensure that they meet a basic level before sending it for review.

“Quite a few papers are so spectacularly bad it feels like an insult to be asked to spend time on them, they should never have been sent out to referees.”

Survey results

Demographics of respondents

Subject area

Biological science	55
Chemical sciences	5
Earth sciences	2
Mathematics	5
Physical sciences	3
Other	7

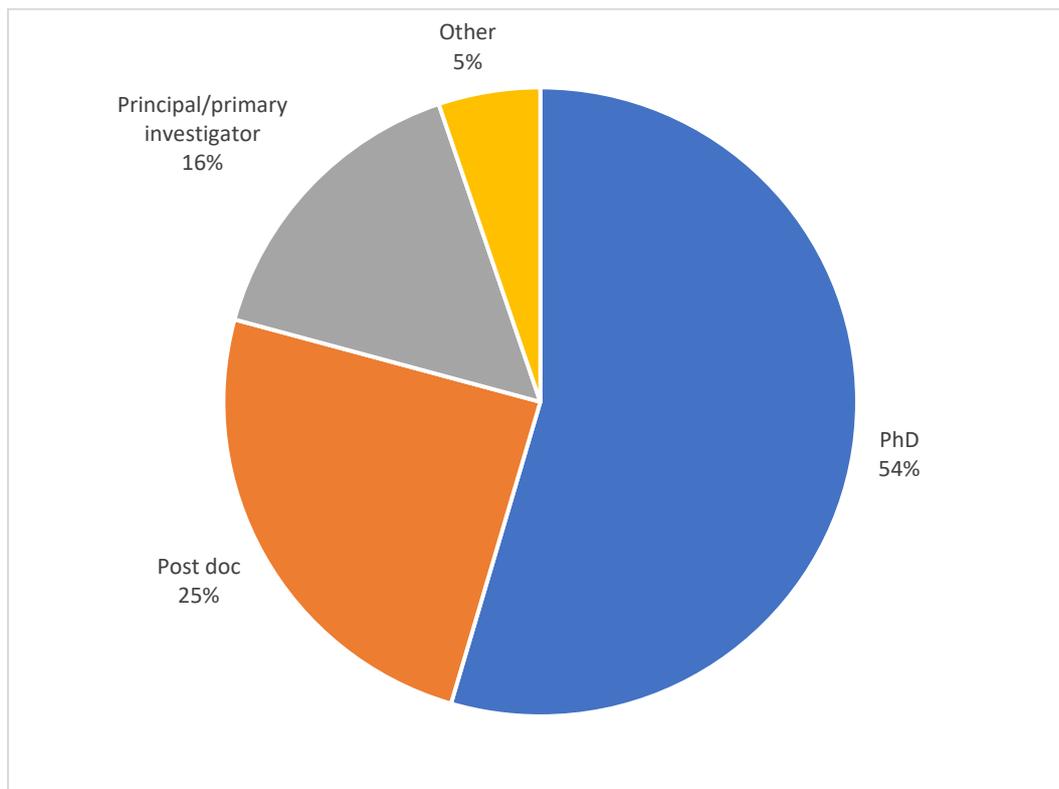
Region where currently working

Africa	5
Asia	7
Australasia	4
Europe	43
North America	16
South America	2

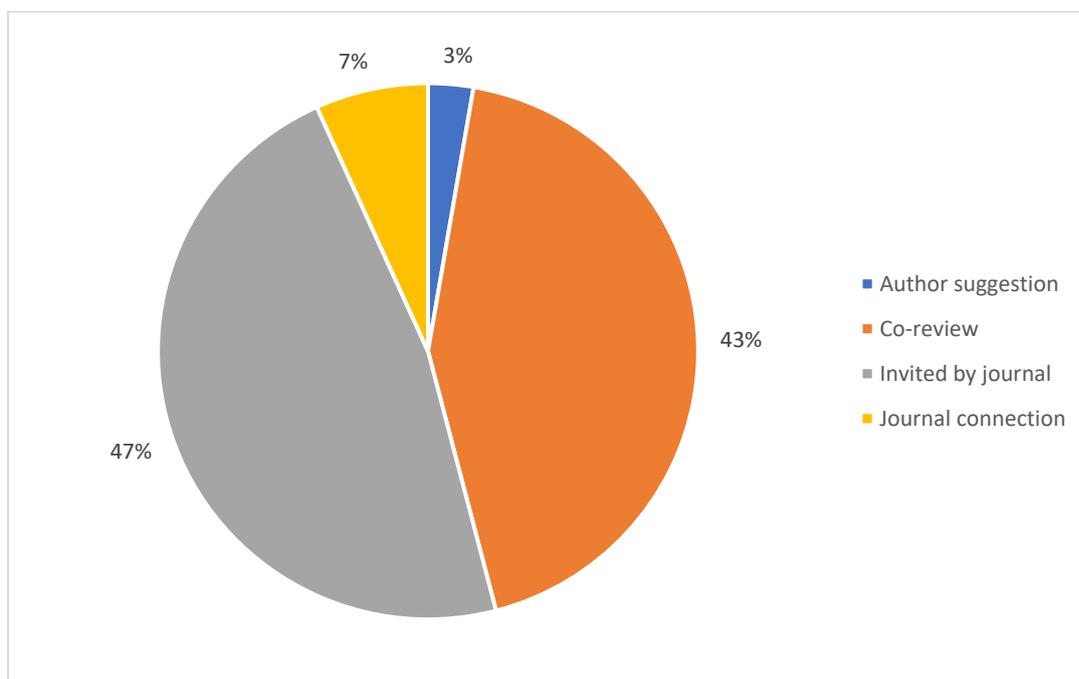
Gender

Female	27
Male	46
Other/Prefer not to say	4

Q1. At what stage in your career did you first peer review a paper?

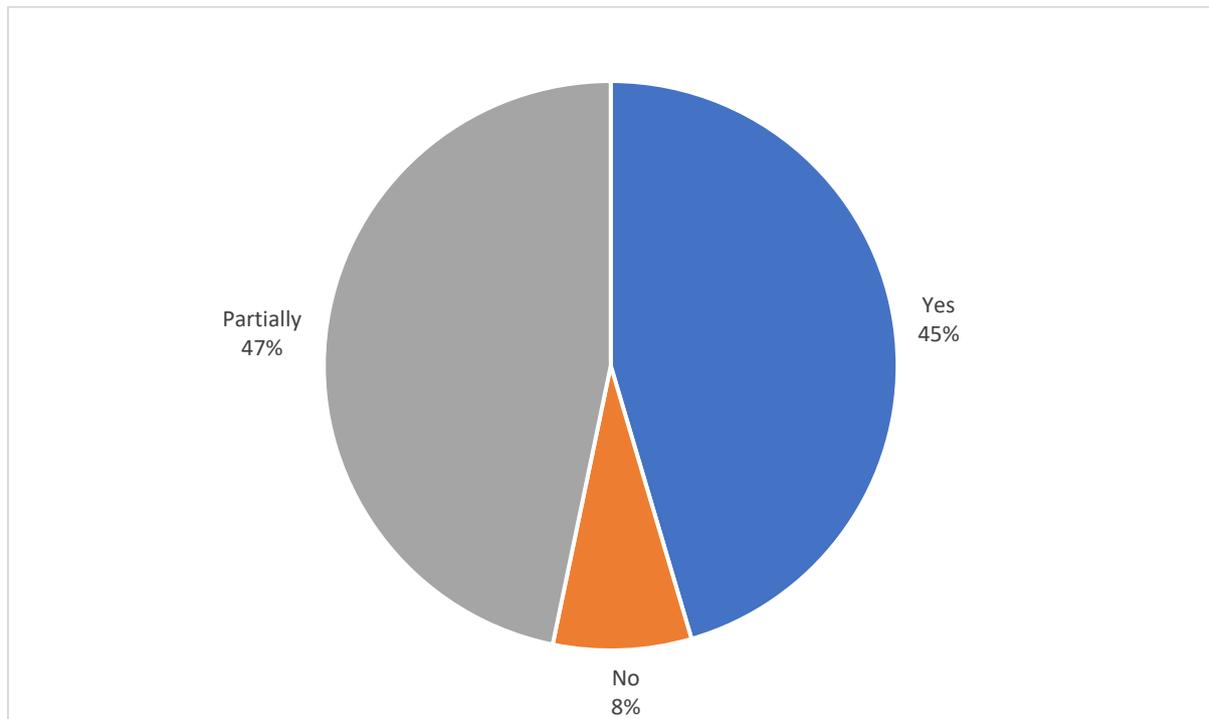


Q2. How did you first get involved in peer reviewing?



Note: this question was given as a free-text box and we have grouped responses by our interpretation.

Q3. Was it clear to you exactly what was expected of you as a reviewer?



Q4. What were your main challenges as a new reviewer?

(Selected responses)

“Understanding the author’s point of view in the pertinent landscape.”

“Timeline given and work schedules.”

“Worrying about being fair and useful to the author.”

“Lack of experience with peer reviews and no training meant I didn’t really have a clue what I was doing.”

“To not get lost in details.”

“Having the self-confidence to be critical.”

“Confidence to critique work of senior colleagues in the field.”

“At first, I went into way too much detail (in terms of clarity of writing) in my reviews, so I spent days working on every paper.”

“Balancing honesty and politeness.”

“Uncertainty if I am adequately knowledgeable to be a reviewer, although the subject matter is relevant.”

“Telling an experienced researcher that their paper was not very good.”

“To be constructive and to find out which issues were critical, which a matter of taste.”

“How critical to be and whether there is a place for constructive comments.”

“Making sure I understood the paper and provided a fair critical review.”

“Finding the right tone (critical but constructive).”

“I was afraid of not catching obvious mistakes.”

“Feeling like I didn't know enough to justify my inclusion as a reviewer.”

“My main challenge was not understanding the scope of a review: I was way too thorough, picking at every issue, no matter how small.”

“Understanding the level of detail that was needed in a review; wondering if my comments were too specific or broad.”

“Overcoming imposter syndrome.”

“I was just a bit intimidated and concerned about my abilities to provide a fair and useful review.”

“Insecurity, learning to describe the general concerns in constructive ways without necessarily trying to find solutions. Reviewing took very long and it was emotionally exhausting too, I felt great responsibility to get it "right".”

“Knowing how much could or should be expected in a revision to improve the study before it becomes asking too much of the authors.”

“Understanding the level of detail required (e.g., should typos be flagged as well as scientific concerns); how to choose a decision (reject vs. major revisions).”

“Balancing critical new experiments/data essential for manuscript vs new experiments that would be nice to have but that not essential for paper.”

“Perspective. I think I have gotten much better as I have gotten older, simply because of greater perspective.”

“I found it impossible to reject for a long time.”

“Identifying the evaluation criteria and organising my report to make it as constructive as possible.”

“Limited time to get into the methods and background of each paper.”

Q5. What support, if any, did you get in your early reviews? e.g. Did you co-review with a supervisor?

(Selected responses)

“Googled blogs on how to do a good review.”

“I co-reviewed with my supervisor, and it was a good exercise for logic training and I gained more experience how to draft my own manuscript.”

“I asked my previous MSc advisor to read my review to make sure the tone and content were appropriate.”

“Pretty close to nothing.”

“My supervisor helped me a lot.”

“None, though I do often discuss (whilst maintaining anonymity) complicated issues with a fellow ECR friend in the field.”

"I never co-reviewed with my supervisor until I was a postdoc, when my advisor invited me to co-review a paper for a major journal. At this point, I already had lots of experience. I had a course in my first year of grad school that included a practice peer review exercise, and this was extremely helpful."

"No support. I found out later that a subsequently close friend had also reviewed and rejected that manuscript."

"Feedback from mentor, structured mentoring through early career editorial board experience."

"Yes, my supervisor would evaluate my reviews."

"I co-reviewed a handful of papers with my supervisor (first both of us reviewing the paper and comparing; later me reviewing and him going over mine)."

"I did not receive any instructions, support, or feedback on my review from my supervisor or the journal. My supervisor just handed me the manuscript (this is the good old days of paper submissions)."

"Yes, my supervisor was the main reviewer and she asked for my input on a significant element of the paper."

"I looked back at reviews I had gotten when I had submitted papers and I asked a postdoc to share with me a report they had previously written for a manuscript."

"Yes, I co-reviewed a few times with different supervisors during PhD and first postdoc."

"Online resources; graduate course on how to be a good academic."

"I did not ask for help from my supervisor, but discussed some points with colleagues. I used journals guidelines and blog recommendations."

"I used online resources available through journals, other academics to guide me through the process."

"Some guidance from older colleagues, used the reports I had received (on my papers) as models."

"None - but I used a helpful guide I saw in the journal Science."

"I received no formal support during the reviews. Informally, I asked for advice on a specific point from my PhD supervisor in vague, anonymised terms. I had previously done practice reviews during my undergrad tutorials."

"Yes, great support co-reviewing with my PhD supervisor and group discussions as a postdoc."

Q6. Is there anything that you think publishers should provide to help reviewers?

(Selected responses)

"It is difficult to say because reviewing is a process involving primarily both personal culture and ethics."

"Include a link to guidelines in the request to review in case it is a new reviewer."

"Online guideline helps a lot."

"I think more respect should be offered from the publishers to the reviewers, as people contribute their time as free labour."

"Many journals now have helpful instruction documents - those would have been great as a young reviewer."

"Don't be in such a rush."

"Advice on how to review, e.g. what makes a good review, what editors and authors are looking for in a review."

"Allow reviewers to access the contents of the journal."

"Recently I've been asked to give papers a numeric score by a couple of journals, without any frame of reference for what a given score means - if such systems are used they must come with guidance."

"Many review systems don't easily allow for co-review."

"I have benefitted from a set of guiding questions to assist in my review process - e.g. 5 questions."

"Perhaps more explicit guidance about what is and is not helpful? Journals differ in what they ask for."

"Better guidelines to what is expected in a review, and to get their editors to have the honesty to explain why your review was ignored."

"Opportunity for mentored reviews by students/ECR folks."

"Guidance on journal expectations and the relative role of the reviewer versus the editor in decisions. This seems to vary widely, which make the role of the reviewer variable."

"Instructions for ensuring that even critical reviews are written in a supportive fashion."

"An invitation to review should always come with an overview of whether open code, data etc. are provided (and where)."

"Possibly pay for this review service."

"Probably example(s) of good and concise review(s), written with a polite language even when criticising major points. This(these) could obviously be fictional, but ideally should show different approaches to writing a good review."

"Specific guidelines on what to focus on."

"Things have changed so much since my first review, so I won't answer from that perspective. Defining the role of a peer reviewer from the authors' and the editors' perspective might be helpful beyond the instructions concerning quality criteria that I usually see."

"A sample review perhaps? If I had seen what others had done in their reviews (what classified as a good review versus a poor one) that would have been helpful. Directions on collegiality would also be helpful to avoid the "reviewer 2" phenomenon (the reviewer with the harsher, often unjustified critiques)."

"Simpler login to their review systems!"

"Providing clear guidelines on how to write a fair and polite review (in my experience as AE if found that some young researchers can be a bit rude in their reviews)."

"I think it's important to provide reviewers with the underlying research materials (data etc) when asking for a review."

"I like the guidelines that PeerJ provides for reviewing. They are concise and with useful examples of wording."

"I like it when the journals make clear what the criteria are for major revision, minor revision, etc."

"Guidance on bullying and power abuse behind the curtain of anonymity."

“Provide guidelines, criteria and other tools made to share the journal's expectancies.”

“Clearer guidance on what that particular journal thinks is a novel, impactful paper.”

“Guide to peer review, and examples of high quality, constructive reviews of both good and bad manuscripts (could be fictional).”

“A code of conduct would be nice (that's for the nasty reviewers). Clarity on the limits of what needs to be reviewed or what is and what is not useful for the editors.”

“Maybe a guideline on how to structure the review and indicate substantive versus more minor issues with the ms?”

“Provide a guide specific to the journal and the language appropriate to use as a peer reviewer.”

“General guidelines and model sentences (as Elsevier does), would be helpful.”

“I feel that it is important to clearly articulate the criteria for publishing in a particular journal.”

“Guidelines to indicate what is and what isn't acceptable for a revision and what constitutes minor versus major revision, versus rejection. In addition, having open peer review means that reviewers are much more polite and this is much more constructive overall.”

“Clear guidelines on what the publishers are looking for in terms of the final decision chosen, and in terms of how much language correction is appropriate for non-native English speakers. On these points and in general, I feel that clear, thorough guidelines are much more commonly given to reviewers now than when I first reviewed ~5 years ago; I feel that this is a positive development.”

“Examples of good and bad reviews, guidance on what's reasonable, clear statement on judgement of impact (if made by journal) or clear statement if not.”

“Make clear what a good review is -- it is not copy editing, but seeing where the paper fits into the big picture.”

“I am generally currently quite unhappy with the whole reviewing process as it is established now: often non-competent decisions by editors, rough and often not so smart reviewers hidden in anonymity provoking their aggressiveness... I think the whole process needs a substantial revision. First, it would help if editors were paid and feel more responsible for their decisions and motivated to allocate their time to really edit a manuscript, not only to blindly follow the recommendations by reviewer and to make quick subjective decisions. They should also give feedback to reviewers to change the reviewing process from the current blind transformation of some points to ACCEPT/REJECT decisions to true informed scientific debate.”

“Hmmm...interesting question...I had already published a dozen papers by the time I was asked to serve as a peer reviewer. As an author you receive no instructions on what to expect from peer review, and you learn soon enough what it looks and feels like. I am not sure that anyone should be reviewing before they have been a lead author on a number of papers and dealt with peer criticism themselves. The review process is likely best handled by peers, and not by editors setting rules and guidelines. Journals have specific questions about the excellence or not of a manuscript and its hypotheses, stats, etc., that already guide reviewers. I think that might be enough and that publishers should stay out of peer review.”

“Everyone has experienced nasty reviews that personally attack, criticize and defame the authors. As with everything there should be a code of conduct. Especially early career researchers should be able to submit manuscripts and receive feedback without requiring mental health support.”

“Give clear the criteria and areas that should be covered. Some idea of scaling what counts as a significant discovery etc.”

“Could be clearer when it is the reviewers job to say if something is in scope for the journal and when it is the editors job.”

“Enough time - in the moment, the ideas of editors/journals often are not realistic (even something like 1 week).”

“Funding would be nice, but on the realistic side nothing springs to mind.”

Q7. Please tell us about your most positive peer review experience. (Selected responses)

“Being asked to review interesting new papers closely related to my area of expertise, within my abilities and with enough time to do it justice (longer than 3 weeks).”

“I only had one experience so far, though the manuscript was not satisfying, I learned quite some lessons for my own writing.”

“Generally when the other reviewer raises similar points. Sometimes author responses are positive to (e.g. thanks for pointing out that thing).”

“Learn good ideas and be inspired.”

“My most positive experiences have been ones where the editor loops reviewers into communication with the authors and framed the reviews in a positive and constructive light, encouraging the authors rather than damning them, making further rounds of reviews collaborative and constructive.”

“I usually enjoy peer reviewing. I like being able to read my reviews alongside those of other reviewers after the editor has made a decision.”

“Most experiences have been positive. Most unique one was with Frontiers in Marine Science, where a type of discussion platform was established to allow Reviewers and Authors to communicate post-reviewing (just before making a paper decision).”

“I can't think of a single positive experience that I have ever had as a peer reviewer.”

“When the provided review improved the paper beyond the expected level.”

“I really like the cross review approach where there is dialogue between editors and reviewers. Often reviewers highlight different issues or may miss fundamental issues. With dialogue between reviewers it becomes much easier to find a consensus decision.”

“Recognition from journal.”

“On a number of occasions, I have been able to provide constructive feedback which I felt helped the authors improve their paper (e.g., by improving their analyses, clarifying their theoretical framework, or sharpening their conclusions).”

“Actually productive back and forth with the authors.”

“The ones that require the least amount of work are the most positive. Clear messages and obviously supportive data.”

“Authors appreciating the work I put into providing constructive comments and in thinking along with them to get the most out of their data and their idea.”

“Reviewing exciting, important work and having vital feedback for the authors to help strengthen their paper (and having those recommendations implemented!).”

"The authors were polite and considered in their response, took on board my comments and amended their manuscript accordingly. The result was a better paper."

"I cannot single out any specific case but in general I enjoy reviewing papers that present new ideas and are well written."

"PeerJ" - their system was very straight forward, clear and easy to use."

"As a reviewer and editor I have seen many studies improving as the result of peer review."

"When the editor sent me the other reviews, gave me some follow-up until the final decision."

"With Frontiers in Ecology and Evolution. I found the opportunity to have a 'conversation' (in writing) with the authors was really interesting and helpful."

"One or two very well written manuscripts which made clear what was the point that the author(s) wanted to make and what was the framework."

"I like it when authors acknowledge my recommendations in a positive manner."

"Being involved in the open peer review system, where reviewers discuss their reviews after individual submission and where reviewer names are shown alongside the published article."

"I reviewed a paper that I considered scientifically not up to par, the senior author of which was a big name in the field and known to browbeat reviewers and editors in response to unfavourable reviews. Nevertheless, the reviews in that case were universally negative, and the editor was clear in agreeing with them and rejecting the paper."

"Sensible moderation by editor."

"Journals that actively seek to publish work of value to community and provide constructive feedback even if paper not eventually published."

"I have literally helped authors restructure papers fundamentally to make them more interpretively accurate."

"Seeing authors make changes I suggested that I believed really improved the paper."

"I had a quick look back - I have been reviewing manuscripts since 1995, thus, for 26 years, and have read on average 14 manuscripts a year, give or take a little. I have also edited for several journals, and thus have read a lot of manuscripts. I cannot honestly think of a "positive" peer review experience. I think that peer review is the only tool we have in the chest for ensuring some measure of quality in producing falsifiable science, but I really do not think it works well at all. So finding a positive experience in a process I believe is essential is difficult. I am not suffering peer review PTSD, but it is close as many reviewers use the tool of peer review as a weapon of "hypothesis cleansing" to protect their own little domain and that of their friends, colleagues and allies - it can be a weapon of dogma. For editors to see that is a particular challenge and they/we often fail if we are a) not subject matter experts, and b) unfamiliar with the social landscape and the "who's who" and in what "camp" aspect of a discipline. Knowing this as an editor is essential to reading through a hostile review for what it is "hostile", as opposed to justifiably critical. This is hard to do. In this sense, editors need a handbook on how to deal with peer reviewers. But again, positive versus negative experiences are hard to identify in a system you know is flawed, but believe to be necessary."

"I think it is important that authors have the chance to reply. Usually if that happens it is always a good experience, as you can see the authors improving their paper and are willing to discuss certain aspects."

"When you are able to guide the authors and make a genuine contribution through your knowledge in the field. Everyone is limited in their knowledge or experience and providing some collegiate guidance or discussion can really boost researchers and their manuscripts."

“When I openly write my name at the end of my review, I got a thank you email from the authors (although my decision was for a major revision). That was a positive experience.”

“I am especially satisfied when editors comment on the reviewers' reports, highlighting specific important issues. Makes me feel that the review was really worth the effort.”

Q8. Please tell us about your most negative experience.

(Selected responses)

“Perhaps there was one case in which it was clear that the editor would like to promote a paper independently of the reasons raised by the reviewers.”

“Being invited to review on a Friday, being sent a reminder two days later and having the request withdrawn within a week because I hasn't replied while I was on holiday over Christmas.”

“I pointed out a critical flaw in the central logic of an experimental paper that could have been fixed in the writing and it was published anyway without any changes. That was a journal that did not share other reviewers' comments.”

“Unreadable paper-very bad writing but project was a great idea.”

“Don't understand what the author is saying.”

“I have often submitted reviews and then never heard anything further (I assume the papers were rejected) - it is frustrating to not be included in the full process.”

“Receiving a paper to review that is not what the abstract suggested and can be a lot of work where there are significant issues.”

“In rare instances, I've submitted peer reviews pointing out what I considered to be major or even fatal flaws. When other peer reviewers agree that a manuscript is flawed and the editor overrides the decision, this can be frustrating.”

“Complaint from a journal to my post-doc supervisor that my reviewing was inadequate when I thought that I had done a perfectly good job based on my own experience of what reviews typically consisted of. I learned that journals have rather different expectations.”

“When reviews are totally ignored and flawed papers published because of the influence of the author. OR partisanship in the review process (either as an author or reviewer).”

“My worst experience involved reviewing a paper and providing what I thought was a strong justification for rejection. The paper was then accepted after a second round of reviews for which I was not invited.”

“Perhaps the couple of times I ended up reviewing papers for which I didn't have the right expertise, despite sounding appropriate when invited.”

“A journal constantly asking to review a paper several times after recommending rejection.”

“Reviewing a paper clearly not written by someone who spoke English fluently. The paper was extremely difficult to decipher. I first had to try to figure out what it was the author was even trying to say, and then judge whether the statement was justified. I felt like I wasted way too much time and the editors should have stopped it from even going out for review.”

“In terms on author response: Spending an insane amount of work on a manuscript with great data and bad execution, only for the authors to submit the unaltered manuscript again to two other journals, and every time I get the same paper as a reviewer; being accused of incompetence over using a simplified example to make a conceptual point; being accused of ad hominem attacks for requesting information about a particular control experiment, a request I made because I had seen a previous version

(conference presentation) of the study by the same authors that showed a more complete data set, which disproved the main conclusion of the study. In term of editor response: receiving two largely identical manuscripts from two journals within days of each other, and pointing out to the editor of the later submission that this is unethical behavior and at the very least a copyright issue (identical figures; more than half then text identical) and being told that the editor does not consider this a problem.”

“When my comments were taken as attacks or not understood by the author, but also it seemed by the reviewer. They replied to my reviews questioning my comments and/or expertise but the editor seemed to agree and did not require further changes. For example, a recent paper had used "deception" through incomplete disclosure as part of their study but when I asked them to specifically lay out the ethics procedure they followed and justify this as part of their study, they replied that they did not deceive their participants (taking it at the literal meaning of the word, rather than the research ethics context of the word). The editor did not request they update this further, which was frustrating.”

“Realising that I had missed a few important points because of reviewing in a hurry.”

“A couple times I never received the authors' response to comments, which left me wondering why certain suggestions went unheeded in the published article and made me wonder if I'd wasted my time.”

“Reviewing poor papers and having constructive feedback completely ignored by the authors.”

“Being abused and denigrated (including being "shouted at" in all caps) by an author of a rather poor paper which I had rejected. When I referred this to the editor of the journal, they suggested I should "get together with the author" for a joint paper (!) I subsequently discovered that the author was a student of the editor.”

“Again, I cannot single out a particular case but in general I found it discouraging when AE did not heed my advise just because there was another very negative review that was unfair.”

“I spent a lot of time reviewing a poorly written manuscript and the authors ignored my comments.”

“No word from the editor, even not an automatic email.”

“Editor ignoring all the reviewers' assessments and publishing the manuscript despite overly negative reviews.”

“It bothers me when authors feel that criticism is a sign of bias.”

“Upon reviewing a paper, the senior author sent a very rude and hurtful response to the editor claiming that my review was wrong and that I was not knowledgeable in the field, and I was accidentally forward the email. This was obviously very upsetting to read.”

“I once brought up several concerns that I felt were major, but which were ignored by the authors and editor because the other reviewers were (overly, in my opinion) positive. I consider this unfortunate for the paper, but not inappropriate.”

“I once received a paper to review that was tangential to my area of expertise. I first made sure that they had asked me intentionally and not mistaken me for someone else; when they confirmed, I agreed to do the review. In the review, I emphasized what aspects I was comfortable commenting on and what was outside my area, and in the comments to the editor, I wrote an emphatic statement saying they needed reviewers with specific expertise that I didn't have. When the decision was sent to the authors, mine was the only review; the paper was accepted. This was at what I consider to be a generally reputable journal, with a good impact factor (>3). I was appalled!”

“I was harassed by an editor when I declined a second review later on, when I had no time the editor, who didn't pay attention to my review.”

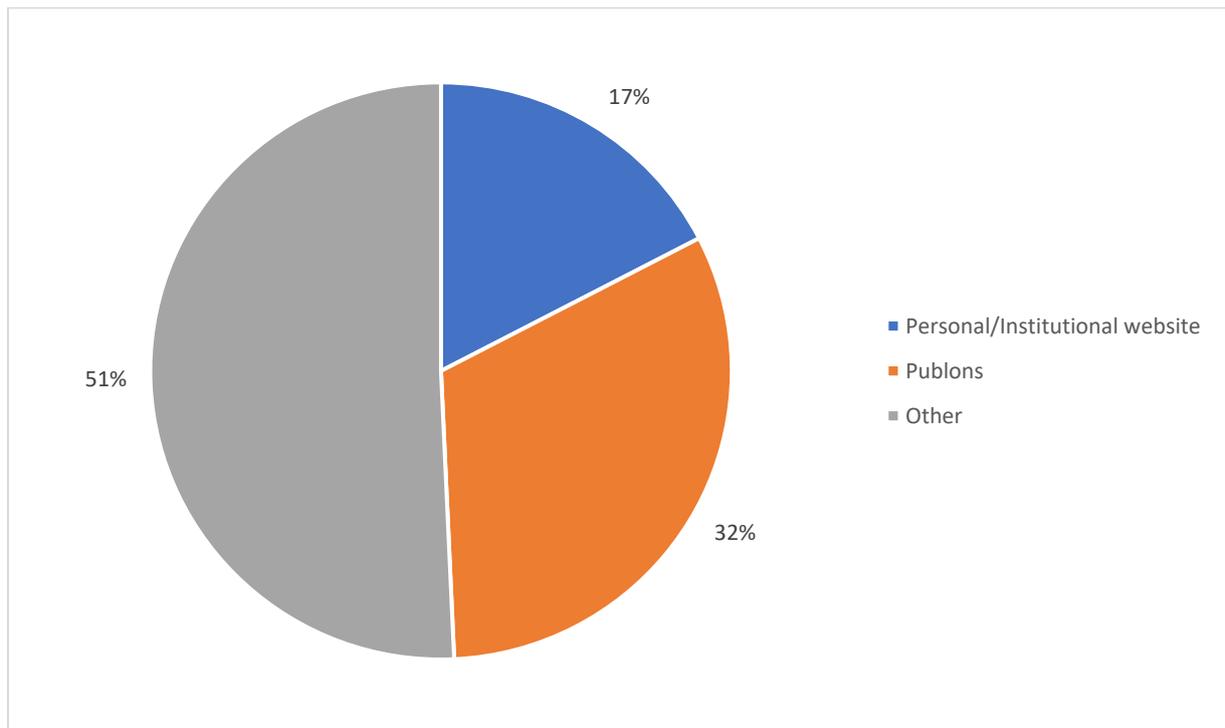
“The most negative thing is the amount of very poor quality work I review.”

“Editor decides regardless of what the reviewers wrote. Often so, when the topics favours or contradicts his/her research direction, when he/she knows the authors in person or etc.”

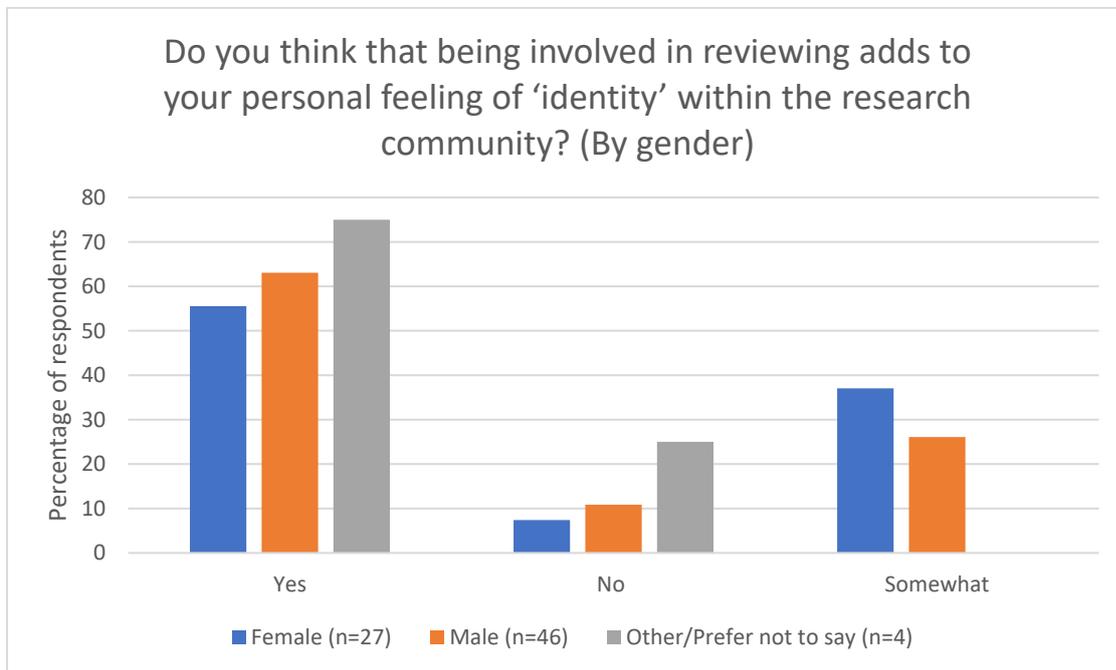
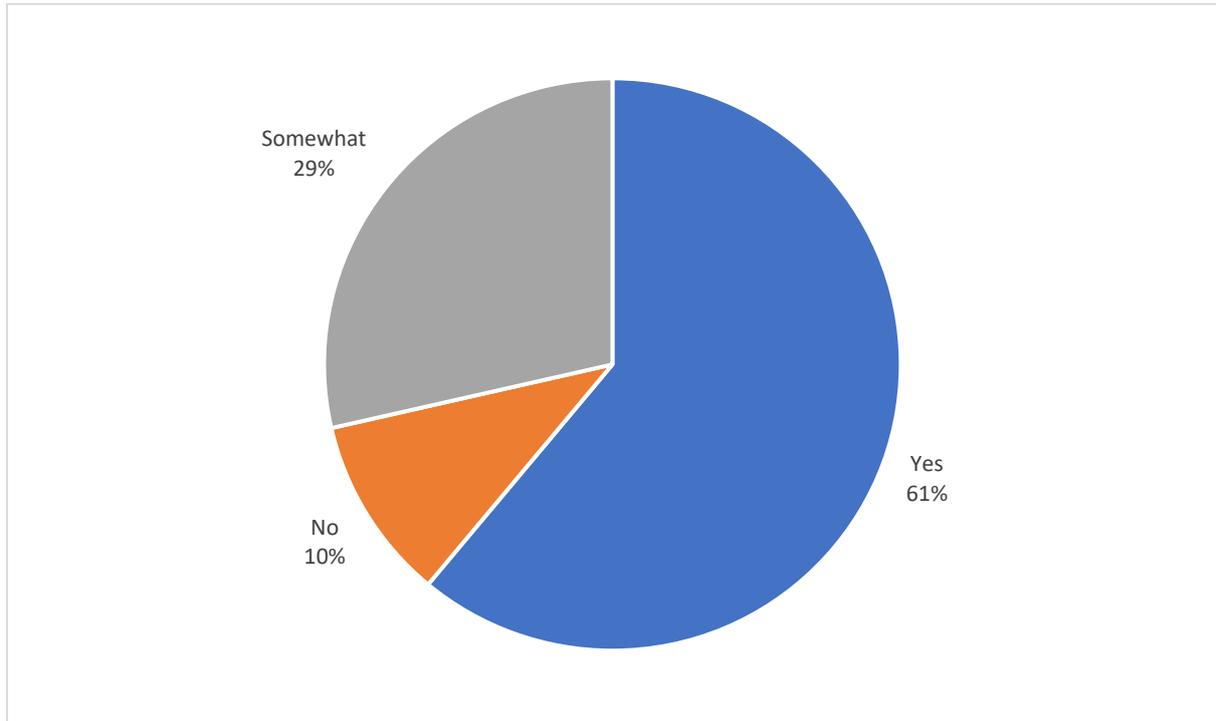
“Once, some years ago, the authors of a manuscript reacted aggressively to my comments and the editor did not even try to mediate between us.”

“Quite a few papers are so spectacularly bad it feels like an insult to be asked to spend time on them, they should never have been sent out to referees.”

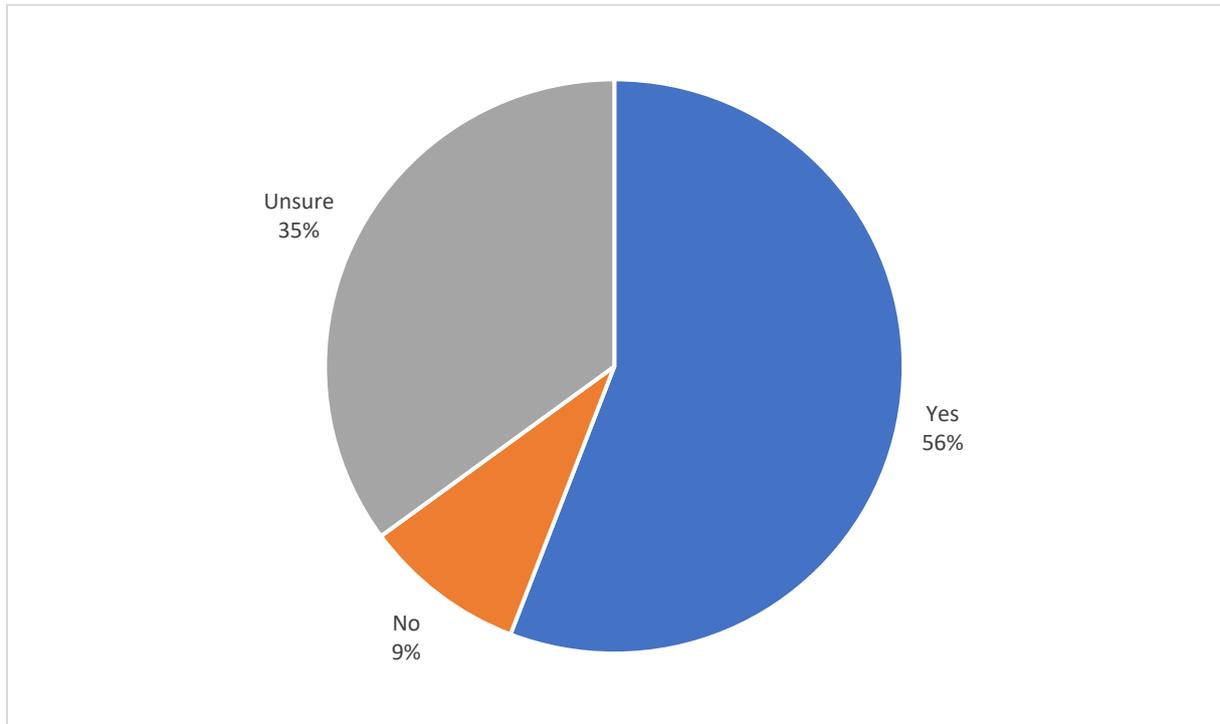
Q9. How do you keep track of your reviewing history?



Q10. Do you think that being involved in reviewing adds to your personal feeling of 'identity' within the research community?



Q11. Should more be done to make peer reviewing a larger part of an individual's academic identity, akin to a publication record?



Q12. Does your individual experience or perspective impact the peer review process in a unique way?

(Selected responses)

"Yes, Post-doc and senior post-doc without permanent positions invest a lot of time reviewing for professors who already have a secured position."

"I think probably everyone's individual experience impacts the peer review process in a unique way."

"As a early career person, yes by making me empathetic to the struggles of academia."

"My personality told me that I am not a "goalkeeper" but rather a helper to the manuscript that I help reviewing. Therefore I would do my best to offer what I have to help improve the quality of the ms."

"Yes, I strongly believe the focus should collegiate and helpful. I have worked with some wonderful supervisors and this is a global extension of that."

"Yes, I think it does. However, being aware of it would limit biased feedback."

"In the sense that I could describe myself as an "authority" in my field, perhaps yes."

"I have certainly received reviews which were unconstructive and aggressive in tone, which I strive never to replicate - but I think I would do this anyway!"

"I have experienced lots of unnecessarily pedantic reviews, so I try to understand what the authors were trying to say and focus on whether the main methods, results and discussion make their point well."

"I'm sure everyone brings their own baggage and biases to the process but I try to be objective and fair in my reviewing."

"I try to remain objective as a reviewer, but obviously my perspective is unique."

"Apart from contributing knowledge where lacking, another impact is conveying the importance of communicating science effectively and efficiently in their writings."

"I am sure it does. I am not an English native speaker, so I never ask authors to "get a native speaker" to revise their English if the authors' names do not sound Anglo-Saxon like reviewers do to me... I also try to be constructive always, not just destructive."

"I try to behave always in a uniform way, and to improve my knowledge, so the ability of judging. Nothing else."

"Possibly: I check to see if this is a student paper or the first paper by the author so as to provide more guidance than if it were a grizzled veteran author who should know better."

"I have been an associate editor of many journals as well as a referee for a host of journals in my field. I feel that participating in peer review makes one a better writer and scientist."

"Yes - having received overly negative or nonsensical reviews that have resulted in time consuming revisions or more experiments, I try to be constructive in my comments and make sure I only ask for the revisions I believe are truly necessary. I try to review as I would like to be reviewed myself."

"Yes, after receiving very negative reviews, based on my identity rather than the manuscript, I now invest a lot of time in providing supportive, constructive reviews."

"No. I try to review on the merits of the work."

"I try to model my reviews on those helpful reviews I've received in the past, especially reviews that raised serious concerns but did so in a helpful way."

"I do not think there is anything unique about my perspective, but I have certain positions on research (e.g., a strong commitment to open science and certain methodological stances) and the scientific community (in particular, a commitment to supporting scholars from the global south) which inform my reviewing."

"Involved with multiple learned society publications and reviewing/editor teams with focus on serving community."

"I am currently a Senior Editor and try to ensure that the whole process is fair and collegial."

"I view it as a debt I owe to the peer-review system because I submit manuscript to peer-reviewed journals."

"Sometimes, yes. Sometimes knowing a different perspective on equality/inequality, poverty, quality of education and so on, can help contextualise certain aspects of research I've reviewed."

"As an ESL and female I am acutely aware of biases concerning ESL authors and authors from underrepresented groups or non-dominant knowledge centres."

"I try to imagine any review on conduct as being a conversation with my peers, rather than a critique or attack, so it is a productive conversation. I want people to read my comments and see them as helpful."

"My experience as an editor and working in interdisciplinary research gives me a unique perspective."

"I don't think so, although having worked as a freelance editor, I might spend more time on details of writing than some."

"Yes. I only act as reviewer or AE for society journals. I very rarely if ever accept to review for commercial journals (I only do it if the manuscript is highly relevant to my own research interests)."

“Yes. I am critical because others have been critical of me, and because I believe that criticism is a key element of the academic contribution to knowledge that is tightly linked, at least in the sciences, to falsification and weak verification. Therefore, I think criticism via peer review is an essential first step in the development of relative knowledge, that is relative epistemic claims.”

“As a former medical illustrator, I'm especially concerned about communicating effectively.”

“Yes. I try to use the golden rule (treat others as you would prefer to be treated).”

“Certainly, I try my best to follow the example of the great referees that reviewed my papers in the past.”

“Not in any way unique, but of course highly intensive grant peer review and more moderate article and book peer review activities have shaped the ways I perform them.”

Q13. Do you have any thoughts on what scholars, organizations and publishers can do to change that?

(Selected responses)

“Scholars should activate their Google Scholar pages and make their emails easier to find.”

“Institutions should let their scientists peer review (anyone who is publishing should also be reviewing). I'm honestly not sure what journals could be doing, other than the existing tools to help AEs find reviewers.”

“Encouragement, double blind process.”

“Try to expand reviewer pools to those with less power - i.e. not just invite 'big names' in the field.”

“Build equal and fair channels to protect the relevant interests of all parties.”

“I think platforms where researchers can register their contact details and specialties so that editors can easily find reviewers beyond their networks is a good idea. I've seen this done informally with googledocs within my own field, but more "official" versions might be productive.”

“I recently discovered a database of researchers from around the world who work in my general field. I plan to make an effort to propose reviewers from a diversity of backgrounds for future papers, and I will also make an effort as an editor to do likewise. If this is encouraged generally, this could be good for our field.”

“As a mature academe, I have used my opportunities and hand it down to my younger peers so that they can receive the same experience and build up their personal confidence.”

“Publishers could also add a line or 2 in their invitations to encourage invitees to nominate their younger colleagues for the task.”

“Just maintain the integrity of the process.”

“Consider paying reviewers for their efforts.”

“I am not clear how editors are chosen - I think a lot of the issues with peer review can be solved by strong and well trained editors. However, editors seem often to be appointed because they are mates with the existing editorial board, which can lead to a funny dynamic.”

“Encourage a transparent process for including younger people, e.g. grad students, in the process.”

"I do believe that mentoring disadvantaged scholars before their papers are written (e.g., through AuthorAid) is much more helpful than any changes to the peer review process. It'd be up to advisors to explain the back and forth between submitting and reviewing."

"I think it is important that more people are aware of the importance of reviewing (from PhD or before), and that those people can manifest (e.g. through Publons) their interest in reviewing for certain topics and/or journals, but that there is actual space to provide information on background, expertise, interests and so on, and that editors can look at this info. In addition, while the vast majority of publications are in English, not all are, and it is important to consider language barriers that non-English speakers face."

"Double blind reviews when possible; offer professional training for early-career scientists; offer early-career, low-threshold service opportunities within journals and the publication process to demystify both; rethink the role of pre-publication peer review in the light of modern technology and new ways of sharing knowledge."

"Some form of compensation (even if it is access to a journal for a month or acknowledgement of reviewers on a journal website) would be helpful. Something to refer to on my annual productivity report."

"Run workshops on peer review, get people to volunteer to review and have them on a database."

"Institutions/funders could build dedicated reviewing time into their contracts."

"Publishers should compile databases with information about research groups in good universities located in developing nations and encourage AEs to use them when choosing reviewers."

"Make more effort in outreach, widen pool of connections, go on deliberate reviewer recruitment drives."

"A system that for each manuscript submitted, the authors commit to reviewing two other manuscripts to 'pay back'"

"I wish my university offered childcare."

"More services for help finding reviewers, so that as editor you don't just always chose the people who are most cognitively available."

"Providing more editorial assistance during the peer-review process and focusing primarily on the quality of the science rather than the English (which can be improved prior to publication)."

"Structural issue that should change how academics are rewarded and thus providing more avenues for diverse voices to be included in the upper levels of academia."

"Databases of reviewers centralised in places like Publons, where in addition the reviews get recognised in some form. Funding bodies asking funding applicants to disclose how many reviews they do, value them to obtain funding. There is no reward for doing this work."

"Peer review could be rewarded academically/in-career with greater 'credit' for having done it, but honestly, I fear that doing this will just add another layer of compulsory burden and stress. It could help people make time for peer review but at what cost? Would it just become another thing against which we can be measured and found wanting? I think the stress of having to have a productive and high impact peer review record alongside my productive and high impact paper output record and my productive and successful graduate student output record, not to mention my productive, high impact, undergrad teaching record - I think it would kill me and many others. We really need to be careful with this."

"Recognise peer review as a significant contribution to research and knowledge production."

"A possibility (considering the huge effort required by a proper review and the large amounts of new manuscripts) could be to introduce a multi-level reviewing process, something akin to the triage done

by doctors. Editors already do something of this kind; I propose to formalize this by introducing, below the editor stage, first and second level reviewers.”

“It would be nice to see publishers provide some compensation in terms of reduced page charges for an article in their journal. Organizations could promote the peer review process and even give seminars at professional meetings. Scholars need to participate as a service to their disciplines.”

“Keeping a database (voluntary?) of ECRs who would like to review and having journals contact them directly may help, but could also have negative consequences.”

“PIs can nominate postdocs and PhD students in their group to co-review alongside them, as long as the publisher can recognise this co-review. Institutions can also promote peer review type journal clubs, where pre-prints are reviewed, and comments sent to the authors.

I suspect that those researchers under stringent time constraints are less likely to take on reviewing tasks now that short return times are common (certainly I am now less likely to do so in the past). Choosing editors from a wide variety of subdisciplines and geographical locations might be helpful.”

“Treat women fairly; reward appropriately; recognise difficulties of family and career balance; recognise difficulties faced by minorities and make genuine strides to fix this. Insist on gender and balance on all editorial panels. Use only institutions with suitable Athena Swann recognition. Do it instead of paying lipservice to it.”

“Support and feedback to reviewers, learned societies general do well by making reviewer and authors feel part of a proactive and supportive community. Predatory journals remain an issue but also where scientific integrity and longevity are not core focus.”

“Make editors more professionally interested in the process.”

“To become an editor at a journal, you are asked to submit a CV for scrutiny. I would suggest that the same be asked of peer reviewers. An MSc., and preferably a Ph.D., should be a minimum first bar that must be crossed, followed by a minimum of 10 lead author publications where they handled the criticisms of peers. It might also be a good idea for a senior peer reviewer to then mentor junior reviewers by providing feedback as they begin the process of learning the 'trade'. I would not create an editors club, but rather a peers club so to speak.”

“Perhaps with acceptance of a paper, ask if people would like to peer-review, but then this would need to be shared between journals?”

“Coaching/co-review/recognition.”

“Perhaps some kind of searchable review register, their publications would act as evidence of their suitability.”

“Not sure - blind reviewing unlikely to be the answer as work from big name groups is still obvious to all. Named reviewing may lead to younger colleagues being wary of criticising those that can help/hinder their careers.”

“Embrace all and be open to global intellectual knowledge.”

“Senior researchers (PhD advisors in particular) should recommend more often their senior PhD students as potential reviewers.”

“I believe this is a bottoms-up issue that needs to be sorted in earlier career stages, but until then, we should do our best to be conscious of it and trying to diversify the pool of reviewers.”

“Actively search to widen their network and work on their implicit prejudices, potentially keep track of the gender and geographical distribution of the reviewers they invite and try to make it representative of the field - having the anonymized data public is always good.”

Q14. What barriers do you feel exist to limit your contribution to the peer review process?

(Selected responses)

"Time. I work in an NGO and peer review is not considered part of my job."

"My knowledge base needs to be more built up to be able to review more various manuscripts unbiasedly."

"Time and lack of recognition through my institution's system of incentives."

"I have a limited amount of time to volunteer, and I don't think completing peer reviews above a nominal threshold helps me advance in my job. However, I do far more than the minimum, because I think peer review is very important and I always learn something when I do it."

"Mostly time. To do peer review well is very time consuming especially if you look at scripts and data, which in an ideal world you should. Lack of availability of data at peer review is often a barrier to doing a good review."

"Not asked to review many papers that are other than sub-standard."

"Early access to reviewing opportunities are unevenly distributed."

"I would much rather review registered reports than complete papers. All too often, by the time the paper goes under review, there are design choices which constrain how much my review can improve the paper. I am particularly dismayed that all too often, I have to tell authors that certain analyses were not justifiable. This typically leads to a rejection at the current journal, but rarely to a change to the manuscript, which is simply published elsewhere."

"It is very obvious that still most editors invite almost only reviewers based on WEIRD countries. Being based in South America, it was very obvious how people with the same level of experience than me, who did their PhDs at the same University, but were later based on North America or Europe, were asked to review much more than me."

"Time. I feel like reviewers should be rewarded for the service they provide. If I was getting paid for each review, I would definitely agree to more."

"Lack of recognition as part of my workload; fear of being identified and retaliated against for critical reviews."

"My own personal workload. There is a much higher expectation to publish rather than review and reviews hold little weight in my academic department as they are a form of "service". 20% of my load, while research and teaching are 40%-40%."

"Being overwhelmed with many review requests."

"Work/time pressure. The number of review requests I get that are clearly outside of my expertise. The number of review requests for submissions that are so poor they should never have been sent out for review in the first place."

"As a parent of a young child, it is especially hard to balance teaching, research, and professional service."

"Mainly time available at this stage. I spent many years saying yes to almost every review request. I can't do that anymore."

"Lack of clarity in what is expected."

"Time - hard to find time in day to read a paper in the detail it deserves."

“My time. I am an editor on two journals and on the board of two more. I review far too many papers in a year.”

“I cannot plan ahead when I may get a review, so it is always a last thing added to the list that I have to do in a limited time. I would be nice if somehow we would plan a bit or get some warning. It takes a lot of time and it is not something I can use for promotions or to get funding.”

“Extreme specialization of some manuscript. The long time it takes to review properly, in a world where academic duties are more and more demanding.”

“Time, time, time and no compensation for one's efforts.”

“I've only been asked to review because I've published papers as a senior author, which can be rare for post-doctoral researchers. I think this is a barrier for those who might wish to review but don't get the opportunity.”

“Time constraints, and the fact that peer review does not give the same return in terms of career progression that publications or teaching/mentoring do.”

“Having sufficient time in workload to review, number of non targeted requests to review.”

“Time. I can only read so many papers and grants in peer review, and only so many papers as an editor. Time limits everything as I have my own research outputs to deal with, those of students and PDF's, friendly critiques for collaborators where I am not a co-author, teaching, service, and of course....my own life.”

“Time, and employer's position that this is someone's "hobby", or, worse, "distraction".”

“Time, time, time, time. Peer reviewing properly takes time. I love it but especially now there is no time. Also, the university does not value it.”

“Time pressures. No credit is given to this task in an institution. You do it in your own time and additional to your job. You can only make it a bigger part if its funded or recognised in some way.”

“Time mostly, life in university is very busy.”

“Sometimes a language barrier, sometimes the methods are unfamiliar and inaccessible.”

“Time. Time. Time. That is all.”

Q15. If you don't feel that you have barriers personally, do you have thoughts on whose voices are left out or stifled?

(Selected answers)

“An editor should try to get independent, competent, and honest reviewers. The rest is irrelevant.”

“The communication between the authors and the reviewers should be slightly more open in both directions even if it's under a single-blind situation.”

“As an AE it is a lot of work to identify reviewers, and one is left with the tools of Google Scholar / past publication records - ie an incomplete picture of who is out there. I have spent a lot of time looking for local experts (eg people living and working in Galapagos to review a paper by US authors on Darwins finches). I found some but none agreed (maybe their job descriptions do not include time for peer review?) I would not say voices are stifled, but I'm sure the reviewer load/privilege is not evenly spread.”

“Early career researchers worry about repercussions.”

“Those with least time and/or power.”

“I think editors inevitably reach for reviewers they know, creating bubbles excluding particularly early career researchers at less well known institutions.”

“Authors often submit suggested reviewers who they know (often from their home country). I think seeking an international perspective is important, but identifying diverse peer reviewers can take extra time for the editor.”

“Western countries are strongly overrepresented.”

“I'm sure that there is an imbalance in the demographics of reviewers that mirrors the imbalance of demographics in working scientists.”

“It is quite clear that non-anglophone researchers have much less of a voice as authors, editors, and reviewers.”

“The same barriers I found, apply to many, many people around the world. Sometimes it seems as if research conducted in non-WEIRD countries was of poor quality, or if researchers didn't do good science.”

“The whole choice of reviewers (or editors for that matter) appears completely arbitrary. Such systems are seldom inclusive in their participation.”

“Impostor syndrome of early-career and underrepresented scholars; editorial policies that limit contributions from early-career scholars; bias of current methods of identifying reviewers (relying often too much on editors' social networks).”

“I do wonder how reviewers are chosen and appreciate it when journals ask for suggestions, particularly for minorities (women, BIPOC suggestions).”

“Too many junior researchers in LMICs do not start reviewing until later stages.”

“I do think that more junior researchers can be meaningfully involved in the peer review process more than they traditionally have been—this will help lighten the load on reviewers who receive too many requests.”

“I'm sure work/time pressure applies to almost every researcher - perhaps more so for researchers in senior positions, who are also likely to be those with the greatest expertise in their fields.”

“I would think that there are many researchers in developing/emerging countries that could greatly contribute to the peer review process.”

“I think that reviewers are often selected from a fairly limited pool of 'usual suspects'. Journals tend to re-use people they've used before and they tend to be over-represented from the prestigious universities and institutes. I think there are many researchers outside these places who would be keen and effective reviewers.”

“Aside from the language issues for non-native speakers, which is an issue for many of my colleagues, I think the system works relatively well.”

“Non-English speaking scientists from developing countries probably don't get asked to review often enough.”

“Editors send reviews to scientist they know. Some background are less "recognised" as scientist, also some nationalities.”

“Editors need to ensure their own unconscious biases do not affect their choice of reviewers. Once a paper hits my desk, though, I increasingly say no, even to papers I AM interested in, because I feel exhausted by my "service" workload already. The stereotype is that this affects female academics more (we have a higher "service" and "pastoral" burden apparently), but I cannot objectively say whether this

is true or not, having never been a male academic! I think it is likely a matter of cultural pressures and personality. I'm more disciplined about saying no and preserving my own sanity these days than I ever used to be, but that does mean I contribute less than I used to to peer review..”

“We need to seek diversity in the peer review process, and I feel that we should involve more junior scholars in the process.”

“I think I was just lucky being asked to review my first manuscript and from there my name was known. For postdocs who want to review but do not get invitations, it is very hard to get on the ladder, as it were.”

“Any researchers whose time is even more limited because of non-academic constraints, i.e., those with special health needs, some neurodiverse scientists, those with family responsibilities. In addition, researchers who are non-native English speakers, those who live outside North America or Europe, or those whose ability to network is constrained by economic factors or historical underprivilege.”

“Women adversely affected by pandemic. Voices often under-represented on boards and reviewing panels.”

“Demographics of reviewer base still needs to be expanded- from geographic/ institution level to gender, race and career stage.”

“This is an inherent problem in science. Science cannot be pure. There is always politics involved.”

“In my perception also as an editor, people now get invited to peer-review as soon as they publish themselves, sometimes to their own surprise. But it's possible that it depends on where they publish, so that those who publish in, say, regional journals do not get invited.”

“Minorities experience barriers because they are likely to be approached less and likely have increased demands on them.”

“The choice of reviewers is a somewhat ad hoc process, often depends on the editors contacts and prime movers in the field, leads to few reviewers from outside a few key countries.”

“It can be difficult to review a paper by a more senior colleague in the field, point out flaws that you know would result in a paper being rejected if it was yours, but it still be published (without many of the comments being addressed). Reviewing in highlight the inequalities and biases in the system.”

“Early PhD students and post-docs or even master students for that matter (unless they put a 'senior' author of a known figure). Non-native English speaking researchers (e.g. Eastern Europe, Latin America, India and Africa).”

“I think senior PhD students should be more involved in peer-reviewing as, quite often, they are real experts on very specific issues. Of course, reports by this sort of reviewers should be managed carefully and properly combined with those by other specialists.”

“All the biases the apply to academia (gender balance, sociocultural backgrounds and geographical diversities, etc) also translate to peer review, reducing the diversity of points of view and ideas that makes science thrive.”

“Language and network barriers exist, and I would not be surprised if many disciplines have an issue with women being underrepresented.”