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Peer review

A global view

Motivations, training and support in peer review
Insight supplement from Taylor & Francis



July 2016



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Introduction

In 2015, Taylor & Francis asked researchers from around the world to take part in an online survey and a series of focus groups, which aimed to explore what the experience of peer review was like for those involved in it on a regular basis: for the authors who write the papers, for the reviewers who review them, and for the journal editors who oversee the process.

The first set of findings was published as '[Peer review in 2015: a global view](#)'. It covered respondents' opinions on the purpose of peer review (expectation versus reality), the process and its mechanics, the place and experience of ethics in peer review, and different models of review.

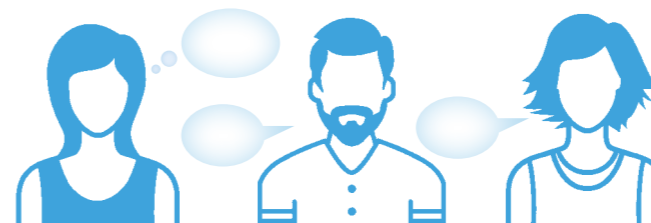
But what motivates researchers to be a reviewer? How do you become a reviewer for a journal? And what support would researchers like when they review a paper (or even before they accept that first invitation)? This latest set of findings brings together the data on

why researchers review, how reviewers are selected, and what support and guidance all those involved in the process would like to see in place to ensure effective peer review for journal articles.

With data segmented by humanities and social sciences (HSS) and science, technology and medicine (STM), the responses reveal a consistency in experience and viewpoints across disciplines, and address some of the major issues currently being discussed within the scholarly community.

2 Key findings

1. *Making a contribution to the field and sharing results* are the most important motivations for submitting to peer-reviewed journals.
2. Most reviewers had reviewed up to 50 academic papers to date, with 46% of STM researchers reviewing between 10 and 50, and 49% of HSS researchers doing the same.
3. *Playing their part as a member of the academic community, reciprocating the benefit, and improving papers* are the most important reasons for agreeing to peer review in both STM and HSS.
4. Most people received their first invitation to review through *the journal editor or an editorial board member*.
5. The factor that would incentivise people most to review is *receiving free access to the journal*.
6. *Over two thirds of authors who have never peer reviewed would like to*.
7. Yet 60% of editors *have difficulty in finding qualified reviewers*.
8. 64% of authors in HSS and 63% in STM who are yet to review a paper would like *formal training*.
9. 66% of reviewers in HSS and 64% in STM *rate their confidence in reviewing a paper as 8 or above out of 10*.
10. *Editorial board members (HSS) and Web of Science (STM) are the most used means of finding reviewers*.



3 Research methodology, responses and survey notes

The research comprised of an online survey, a series of focus groups (so that views could be explored in depth), and desk research to identify relevant previous studies, articles, reports and blog posts. All focus group participants and survey respondents have been anonymized in this supplement.

Qualitative research

Six focus groups took place in the UK, China and South Africa in early 2015. Authors, reviewers and editors who had had a minimum of two journal articles peer reviewed (whether with Taylor & Francis or any other publisher) took part, spanning the sciences, technology, medicine, social sciences, and humanities. In total, there were 46 attendees.

Quantitative research

The survey responses are from researchers who have published in Taylor & Francis or Routledge journals. We contacted researchers who published with Taylor & Francis in 2013, many of whom would have since published elsewhere, reflecting the diverse experience of today's research community. Their responses were then compared to a smaller sample of researchers from lists provided by Thomson Reuters, to ensure the results were truly representative.

TOTAL RESPONDENTS: 7,438
(a response rate of 8.6%)

Science, Technology and Medicine (STM)



18% Author



63% Reviewer & Author



18% Editor, Reviewer & Author

Humanities and Social Sciences (HSS)



16% Author



63% Reviewer & Author



21% Editor, Reviewer & Author

Examining views from Science, Technology and Medicine, and Humanities and Social Sciences

A randomised sample of all Taylor & Francis authors would currently be biased towards HSS. However, the true global population of researchers is heavily weighted in favour of STM (with STM researchers comprising nearly 9 in 10 of all researchers).*

For this research, Taylor & Francis authors were stratified into STM and HSS spheres, and an equal number of authors were randomly sampled from both strata.

Combining the two samples in the online survey according to the STM / HSS global population* would essentially overwhelm the responses from HSS scholars with those from STM, and consequently we have reported these two sets of findings separately. Doing so also enables us to see the similarities and differences between these two groups.

Responses on motivations and training

In the online survey, respondents were asked a screening question based on their experience of authoring, reviewing and editing. Many of the responses here are from researchers who identified themselves as having reviewed and / or edited a journal, with a response rate for the section on motivation and training in peer review of **7.7% (or views from 6,311 researchers globally)**.

Of those respondents, 62% were from the Humanities and Social Sciences (HSS) and 37% from Science, Technology and Medicine (STM) disciplines. Particularly in HSS, the largest group of respondents to this section were also from the USA (40%), suggesting a burden of weight to review falling on US-based scholars. This also reflects findings from a recent peer review study by Wiley, which found "US researchers bear a disproportionate burden of peer review" **.

Top 6 countries with over 100 respondents

	STM	Respondents	HSS	Respondents	
	1. USA	488		1. USA	1575
	2. India	200		2. UK	383
	3. China	148		3. Australia	273
	4. Italy	145		4. Canada	208
	5. UK	113		5. Italy	108
	6. Canada	101		6. Germany	107

* UNESCO World Social Science Report 2013
** Warne, V. (2016) Rewarding reviewers – sense or sensibility? A Wiley study explained. *Learned Publishing*, 29: 41–50. doi: 10.1002/leap.1002.

4 The right thing to do?

Continuing to value peer review

Submitting to peer reviewed journals

Researchers (answering as an author) were asked to rate which factors motivated them to submit research to a peer reviewed journal. Making a contribution to the field and sharing research findings with others were given as the most important motivations, with career enhancement and demonstrating that an original piece of research has been conducted close behind.

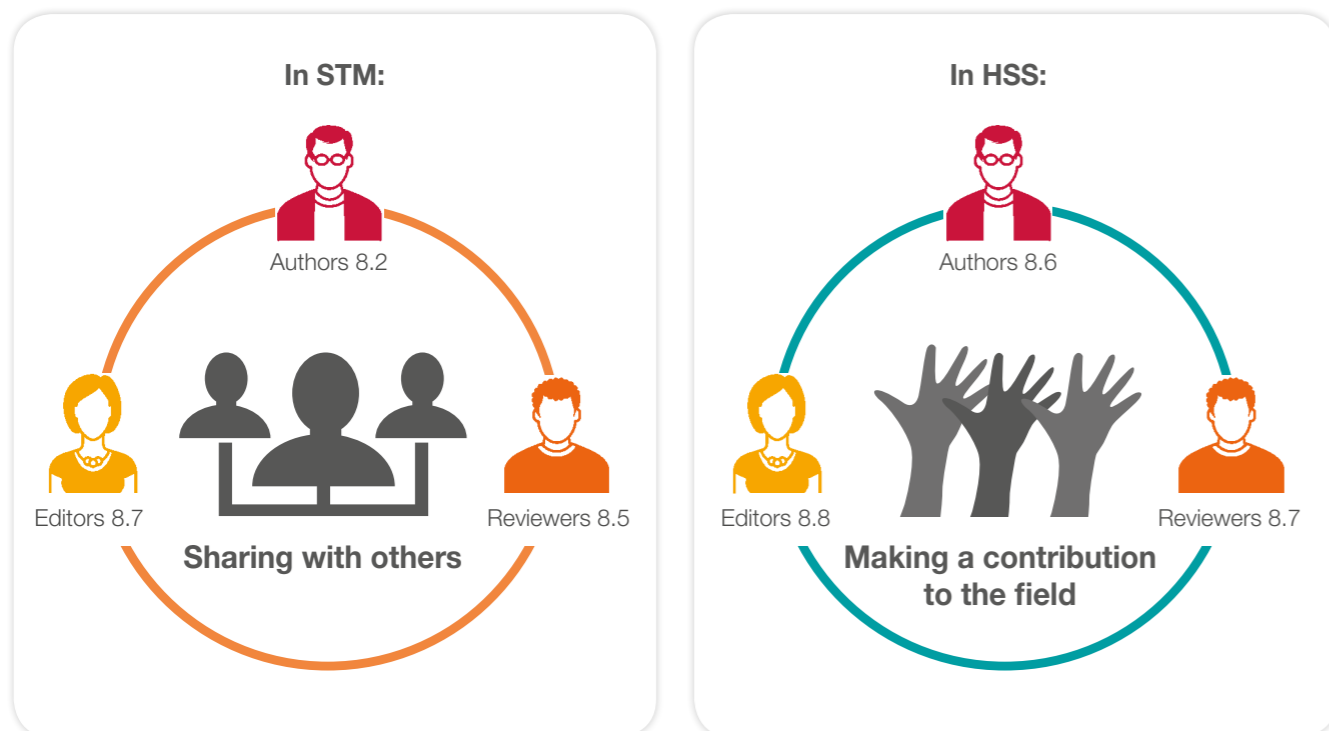
Unsurprisingly, those under 40 scored career enhancement as their strongest motivation (at 8.5 for 20-29 year olds and 8.6 for 30-39 year olds), while for those between 40 and 59 it was making a contribution to the field and sharing results, at 8.6 for each.

Government or funding body pressure was the lowest motivator for submission: there is always more pressure from researchers' institutions to fulfil a quota. The highest rating for the influence of government on the decision to publish in a peer reviewed journal though came from STM editors; who gave a mean score of 6.6 out of 10.

Government pressure is always higher in STM subjects than HSS subjects, and their role reflects the fact that they are likely to be the most experienced (and senior) of the three groups (author, reviewer and editor) and therefore potentially the most aware of such external pressures. However, even amongst this group, all other factors were still rated more important.

Strongest motivation to submit to a peer reviewed journal

Mean scores, with respondents asked to rate out of 10, 1 being the lowest and 10 the highest



How many academic papers have you reviewed?

In STM, 69% of respondents had reviewed up to 50 academic papers to date (with 23% selecting 0-10 and 46% 10-50). In HSS this rose to 79%, with 30% selecting 0-10 and 49% 10-50). A significant portion in both groups had reviewed more than 100 papers (16% in STM and 10% in HSS), suggesting a career long contribution to the scholarly record (a third of all respondents placed themselves in the 50+ age bracket).

"It would be good to keep a track of papers submitted versus reviewed. It would seem unfair if someone was submitting lots and reviewing none – a kind of quid pro quo idea"

Editor, Cultural Studies, UK



Why review?

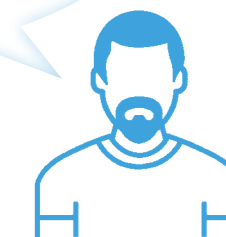
Playing a part as a member of the academic community, reciprocating the benefit, and enjoying being able to help improve papers were selected as the top three motivations for agreeing to undertake peer review. In both STM and HSS there were scores for each of these reasons between 7.5 and 8.8 out of 10.

Looking across the age groups, playing a part as a member of the academic community scored highest no matter what age bracket respondents fell into (between 8.4 and 8.7). Understandably, those between 20-29 gave the highest score within 'enhancing your reputation or furthering your career' at 7.1. However, among this age group this was still placed fifth out of the eight possible responses, behind playing a part as a member of the academic community (1), enjoying being able to help improve papers (2), reciprocating the benefit (3), and enjoying seeing new work ahead of publication (4). According to the responses given here, attitudes among the age groups on motivations to peer review are closely aligned.

This agrees with other large scale studies by the Publishing Research Consortium* and Sense about Science**, where over 90% of reviewers stated their top motivation for reviewing as playing their part in the academic community.

"I stopped reviewing when I was busy but have come back as I feel I have something to add. Some of the quality of the feedback I was getting was very poor. Some only know one method and think everything should follow that method. It's ok for me as I can argue my point but it worries me for younger authors, who may find this difficult to address."

Researcher, Business and Economics, UK



"Among all the functions of peer review, I think the greatest benefit is that it increases academic communication. The second importance is that it ensures the scientific rigor of papers. As to the third one, I'm both an editor and a researcher in my field. I review other papers and have also been reviewed by others. I think reading other people's papers inspires me ... this is important and helpful."

Researcher, History, China

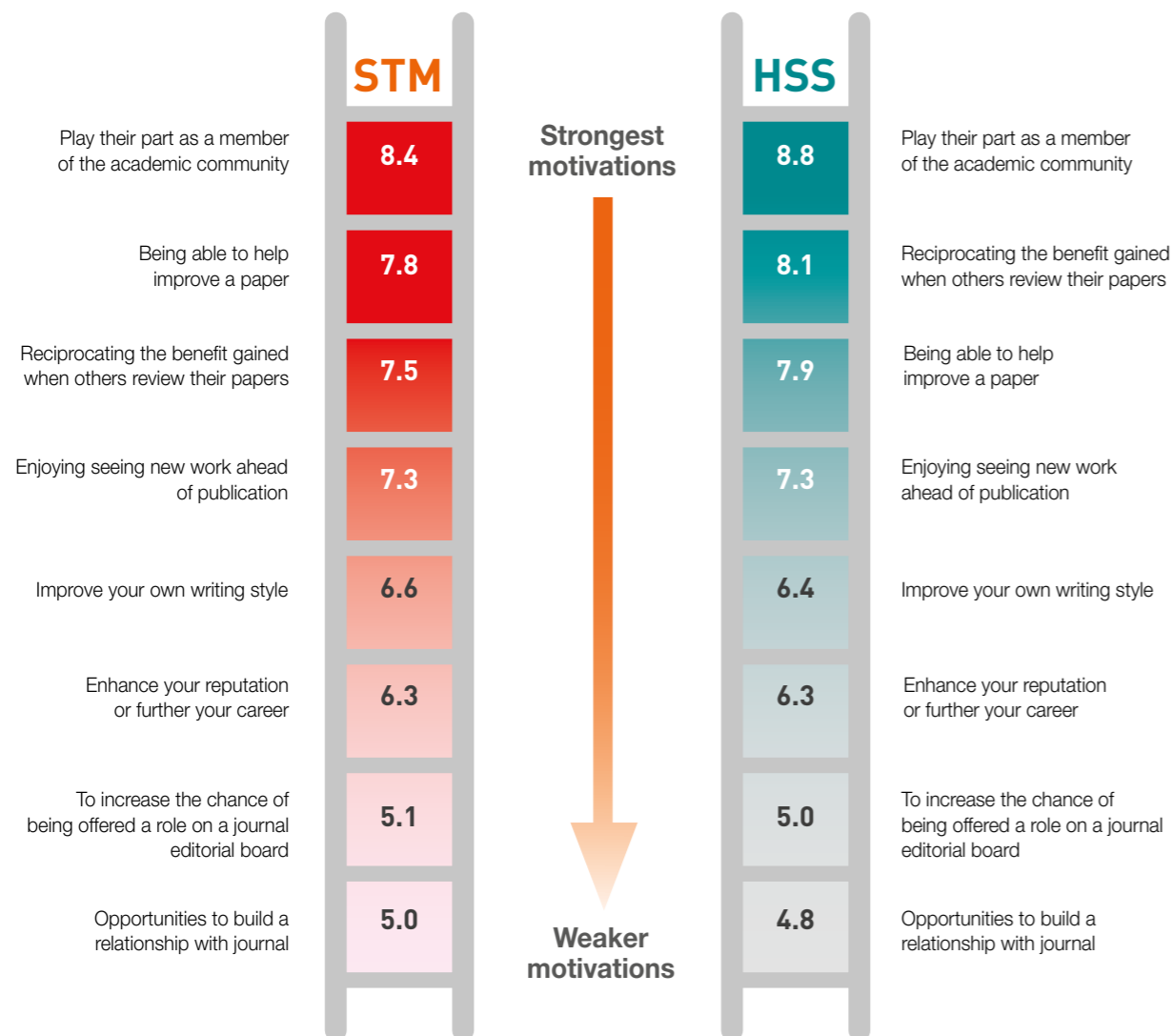
* Ware, M. The Publishing Research Consortium Peer Review Survey 2015

** Peer Review Survey 2009: Full Report. Sense About Science



What motivates people to peer review

Mean scores (all scores are on a scale of 1–10, 1 being the lowest, 10 the highest)



Getting started: your first opportunity to review

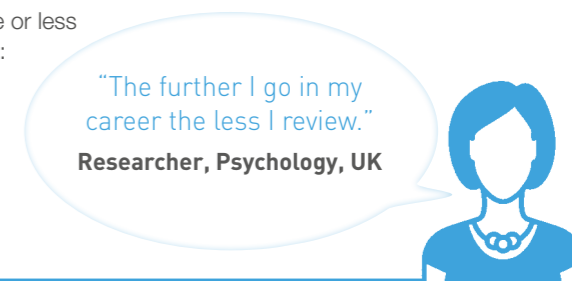
Reviewers were asked how their first opportunity to review arose. In both HSS and STM the top response was 'I was approached by the editor / editorial board member who I didn't know': in both groups 46% selected this response. In STM 25% were invited or recommended by their supervisor, whilst in HSS this was 19%.

Direct approaches by the editor or editorial board were by far the most common, whether they knew them or not (67% in HSS and 58% in STM), showing the pivotal role played by editorial teams in the peer review process (and how important networks are within the research community).

5 What incentivizes people to review?

When asked to consider which factors would make them more or less likely to review for a journal, reviewers are most incentivised by:

1. Receiving free access to the journal
2. Having color fees or open access article publishing charges waived
3. Appearing in a published list of reviewers



The strongest deterrents were publishing the reviewer's report, with anonymous publication only marginally less of a deterrent than publishing their named report. Reviewers are however incentivised by their name appearing in a published list of reviewers – among these respondents some recognition is welcomed but not when directly linked to the paper reviewed.

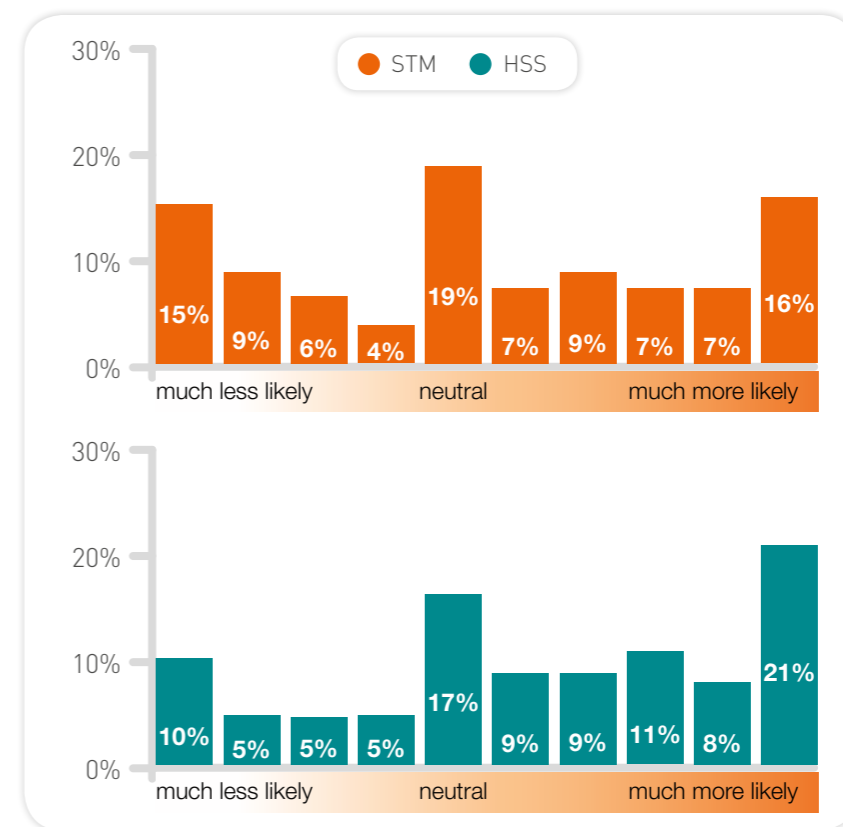
The data shows peaks around 10 (much more likely), 5 (neutral) and 1 (much less likely).

However, when you break these down by age those in the youngest age group (20-29 year olds) are most in favour of receiving payment and those who are 60+ are most resistant. Whether this attitude among younger scholars will change as they progress in their careers, or if the call for reviewers to be paid will grow in time, could be an area of future examination. The overall lack of consensus found here is in line with the Sense About Science study, where reviewers favored payment in kind (such as free journal access or a waiver on publishing costs) as an incentive but were unclear on direct payment for review.

Being paid to review

When it comes to the question of being paid to review, there is no consensus amongst reviewers about whether this would make them more, less, or neither more nor less likely to accept an invitation to review.

Would payment incentivize people to peer review?





Incentives to review

STM			HSS		
All ratings out of 10, with 1 least likely to review and 10 most likely			All ratings out of 10, with 1 least likely to review and 10 most likely		
Free access to the journal	7.3	More likely to review	Free access to the journal	7.2	More likely to review
Colour charges or open access article publishing charges waived	6.9		Colour charges or open access article publishing charges waived	6.8	
Reviewer's name in a published list of reviewers	6.6		Reviewer's name in a published list of reviewers	6.7	
Reviewer receives a certificate	6.2	Neutral	Reviewer gets payment	6.2	Neutral
Reviewer gets payment	5.5		Reviewer receives a certificate	5.8	
Entered into a competition to win a prize for most effective and timely review	4.9		Entered into a competition to win a prize for most effective and timely review	5.1	
Reviewer's name published alongside the paper	4.8	Less likely to review	Reviewer's name published alongside the paper	4.3	Less likely to review
Reviewer's name disclosed to the author	4.6		Reviewer's name disclosed to the author	4.0	
Reviewer's report published anonymously	4.5		Reviewer's report published anonymously	3.9	
Report published with reviewer's name	4.1		Report published with reviewer's name	3.5	

"Many of the problems of peer review come up because reviewers are not incentivised. They're not paid. How do we get reviewers extremely interested? Selection is often based on networks – friendship with editor, CV considerations, etc., rather than commitment to scholarship."

Researcher, Humanities, South Africa



6 From reviewee to reviewer: training and support

Over two-thirds of authors (72% HSS / 69% STM) who have never peer reviewed a paper would like to.

Reflecting the findings from previous studies on peer review, this research uncovered a desire and need for training and better methods to find suitable reviewers (which may lead to fewer requests for review being turned down and thus speed up the peer review process). In the Sense About Science study 56% said there was a lack of guidance on how to review, and 68% thought formal training would help. In this research, 64% of HSS respondents who said they were authors (but had yet to review a paper) had never attended a workshop or formal training but would like to, and in STM this was 63%.

Despite this, this research revealed over **two-thirds of reviewers (66% HSS / 64% STM) rate their confidence in reviewing a paper 8 or above out of 10** (with a mean score of 7.9 in HSS and 7.8 in STM). Balanced against this though is the recurrent themes from respondents in both the survey and focus groups of a need for training in research methods and in detecting fraud and plagiarism.



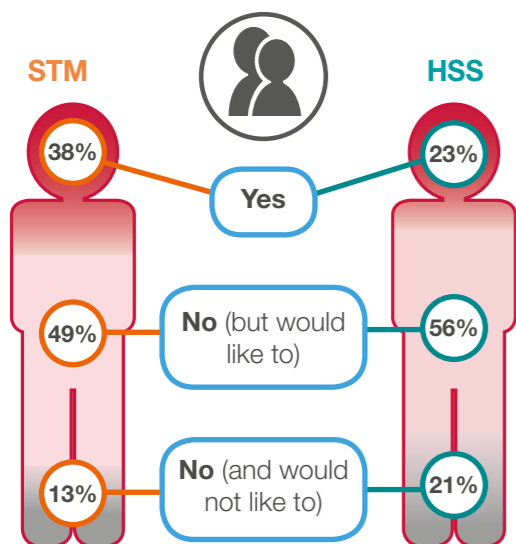
"The best training came through mentorship. Faculty should be encouraged and rewarded (by university recognition) for doing this as part of a faculty role, but it is hardly noticed; just expected and certainly not rewarded. Maybe if the activity could be quantified or acknowledged/rewarded by journals that could help faculty. This effect could increase the quality and timeliness of reviews and it would encourage mentorship to train the next generation of reviewers."

Researcher, Public Health, United States

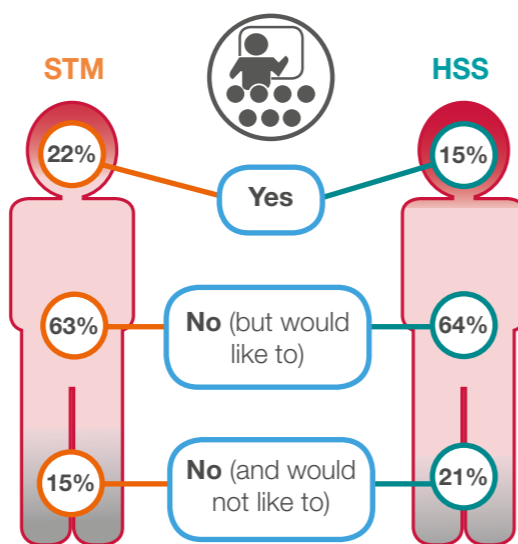


As an **author**, have you received any of the following training, guidance or mentoring on peer review practices (despite not having peer reviewed a paper)?

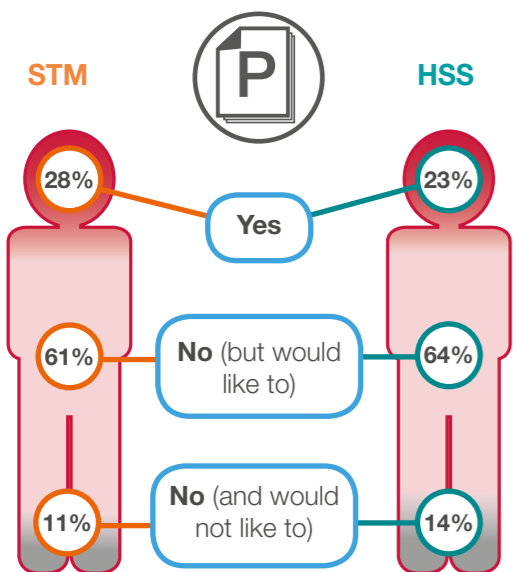
Involved by their supervisor in the review of a paper



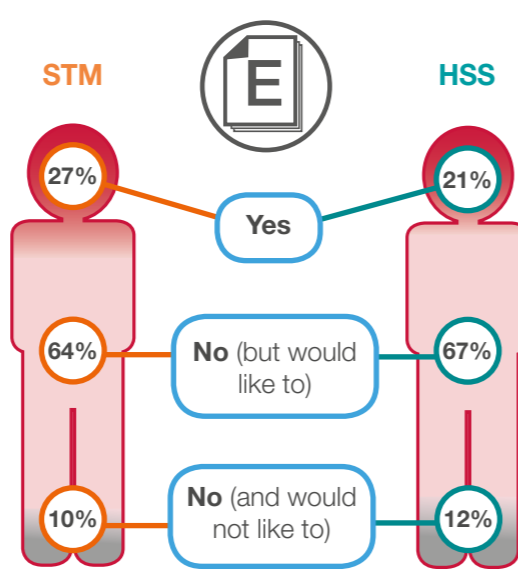
Been to a workshop or formal training



Received publisher guidelines

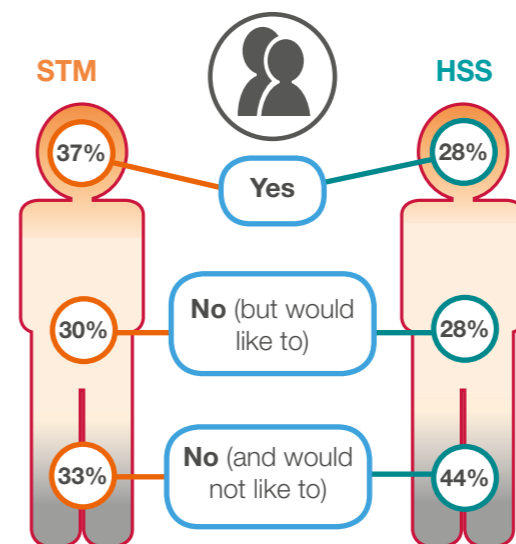


Received editor guidelines

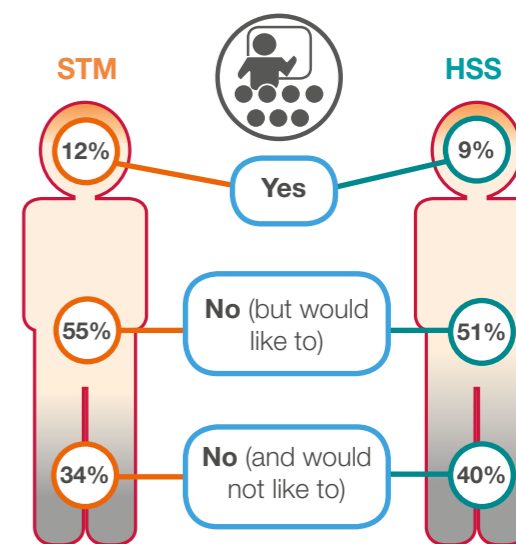


As a **reviewer**, have you received any of the following training, guidance or mentoring on peer review practices?

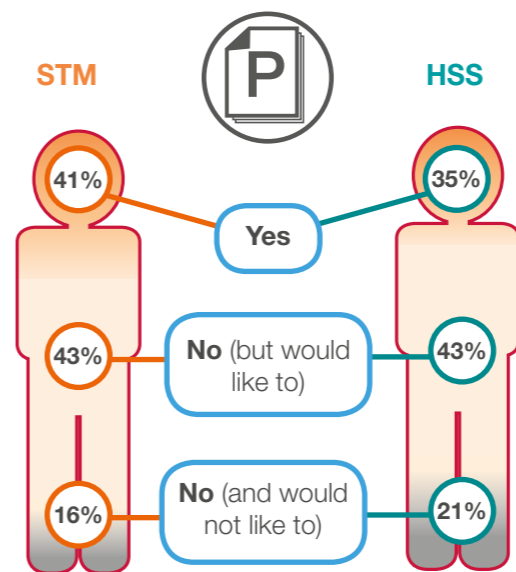
Involved by their supervisor in the review of a paper



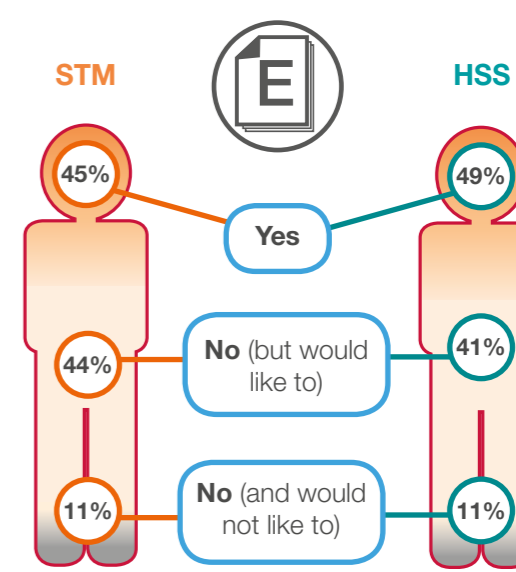
Been to a workshop or formal training



Received publisher guidelines



Received editor guidelines

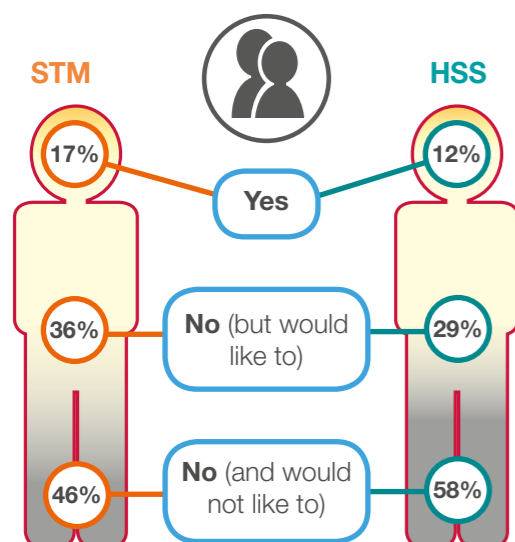


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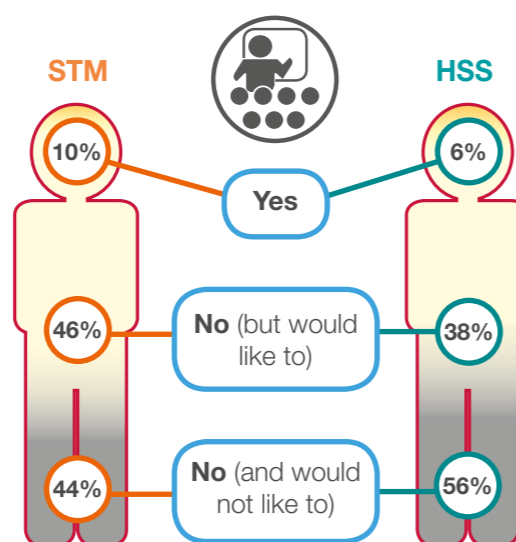
Just 1 in 10 of reviewers have been to a workshop or formal training on peer reviewing but the option selected by the largest number of respondents is 'No, but I would like to' (51%: HSS / 55% STM).

As a **journal editor**, do you offer any of the following, training, guidance or mentoring to first-time reviewers on your journal?

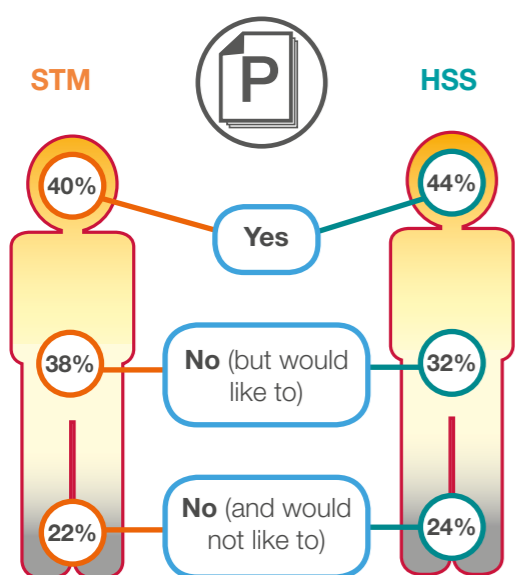
Encourage supervisor involvement in the peer review of a paper



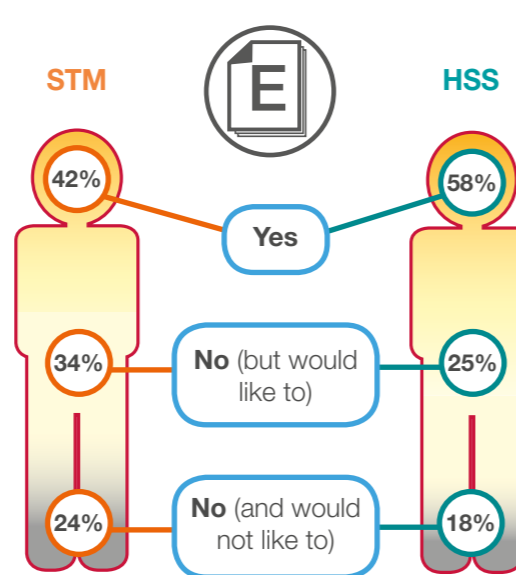
Offer workshops or other formal training



Provide signposting to publisher guidelines and advice



Offer your own guidelines and advice



Please note percentages have been rounded to the nearest whole number for ease of understanding.

7 Locating reviewers

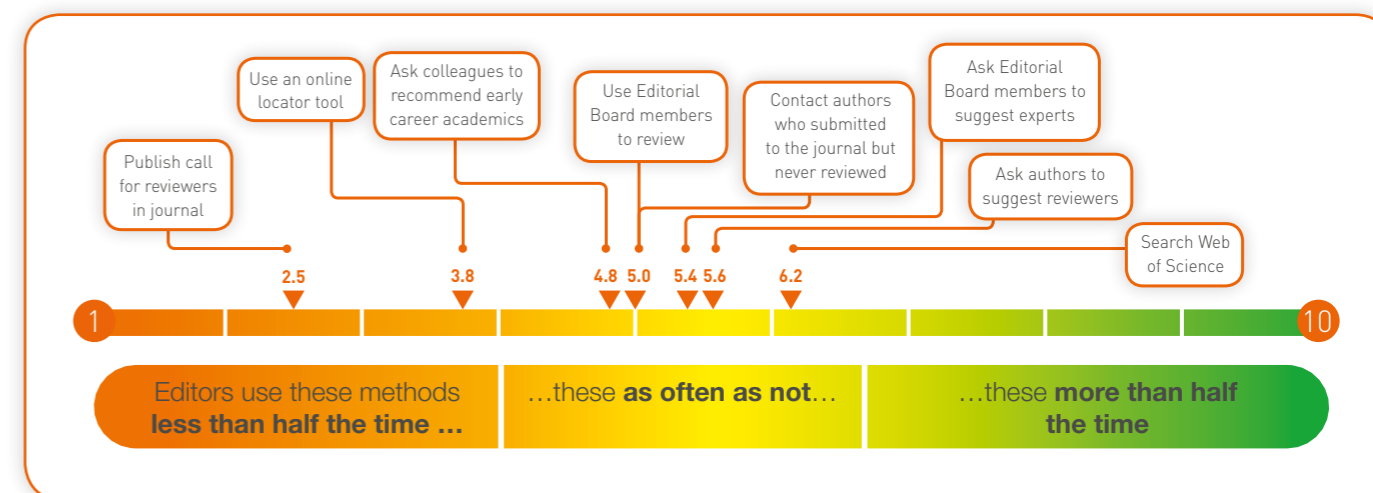
"It's a challenge to get good people to do peer review, and to read in-depth"

Editor, Health Studies, South Africa

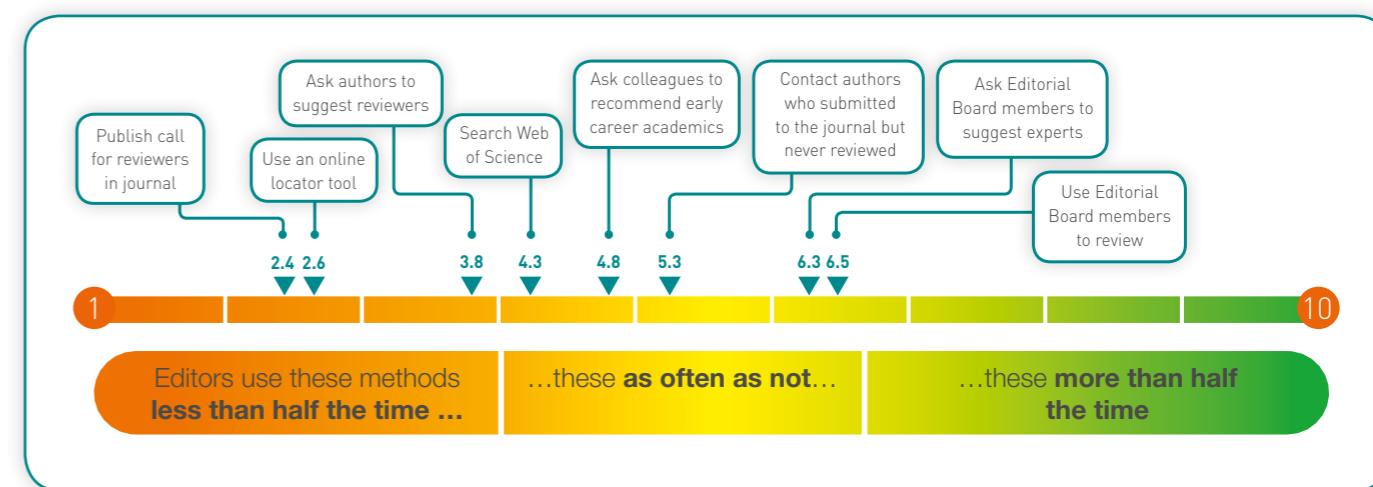


Two thirds of editors believe it is difficult (5 or lower out of 10 on a scale of 1-10, 1 being very difficult and 10 very easy) to find a reviewer, consistent for both STM and HSS. This subject caused much discussion in focus groups, and the impression given was that this is a considerable challenge for editors. Using editorial board members (HSS) and searching Web of Science (STM) were the most popular means of locating reviewers, though neither are without their problems. Searching Web of Science is time consuming and the number of requests that can be made to editorial board members needs to be managed.

In STM



In HSS





8 Conclusion

Peer review remains (rightly so) a topic of discussion and debate within the scholarly community: in blog posts, on social media, and in traditional media. Alongside those previously published as [Peer review in 2015: a global view](#), these findings aim to offer many useful insights as well as a current view from the global researcher community on peer review, the much scrutinised system which remains at the very heart of scholarly communication.

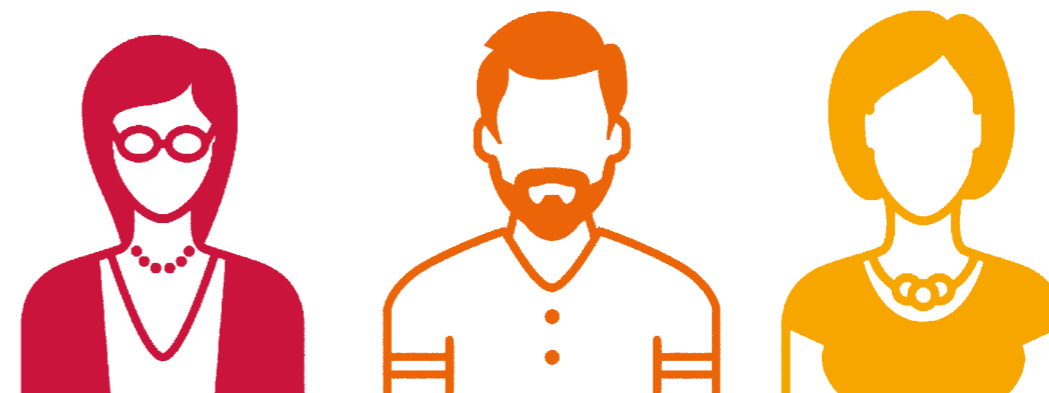
In this research, **making a contribution to the field and sharing results were given as the most important motivations for submitting to a peer reviewed journal whether researchers were working in the sciences, social sciences, medicine, or humanities.** This pattern of very similar responses between these two groups (HSS and STM) remained consistent both in the online survey and in focus groups, suggesting that the over-arching experience of peer review is not quite as different between the disciplines as preconceptions would sometimes lead us to believe.

In line with other studies, **researchers agreed that playing their part as a member of the academic community, reciprocating the benefit, and improving papers were the most important motivations to carrying out reviews.** There was some discussion in focus groups about the difficulty of locating reviewers and of a perceived shortage of reviewers but this did not dominate focus group findings. This does need to be balanced by the views given in the survey though, where a significant portion of editors expressed difficulty in recruiting reviewers (and then looked at against the many authors who had never reviewed but expressed a desire to do so).

In terms of incentives to attract reviewers, as in the previous studies, free access to the journal, having colour fees and/or article publishing charges waived, and appearing in a published list of reviewers were popular. Payment for review saw mixed scores and was not a topic of much discussion in any of the focus groups, whether that was in China, the UK or South Africa.

The data presented here did uncover **a clear need for more training and support though: not only for those new to peer review but also refresher training for more established reviewers** (who cited research methods and identifying fraudulent practice amongst their needs). Whether publishers could work together to create standard guidelines that could be applicable to all journals is something that has been discussed but, whatever the actions taken, there is certainly a clear desire for guidance on reviewing from the research community.

With peer review remaining so central to the scholarly endeavour (despite its flaws and contentiousness), understanding the motivations to publish in peer-reviewed journals and to undertake reviewing another scholar's work is imperative. Linked to that is addressing what support is needed for those as they review a paper, something which opens up possibilities for collaboration between disciplines and organisations. We hope these research findings fuel discussion and action in this area, and assist in strengthened the rigor of peer review now and into the future.



Peer review: a global view

Motivations, training and support in peer review

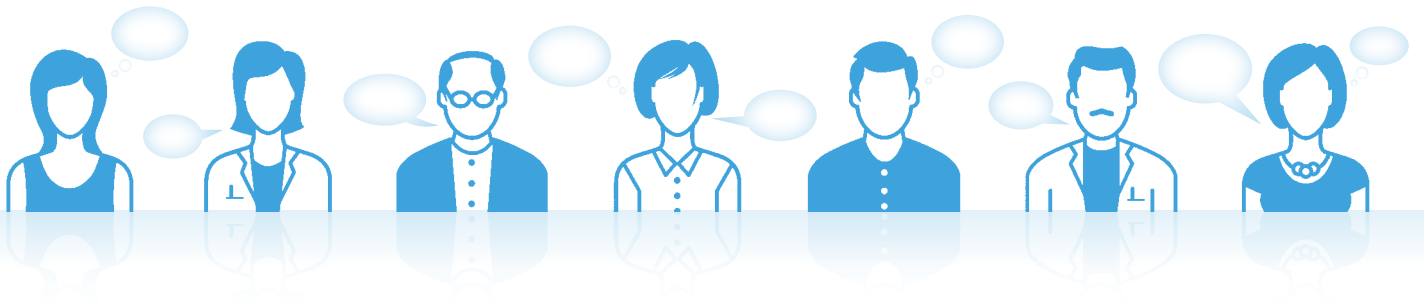
For full survey demographics please see [key survey data](#).

Further Reading

[Peer review in 2015 \(white paper and key survey data\)](#)

[References and acknowledgements](#)

 #tfpeerreview



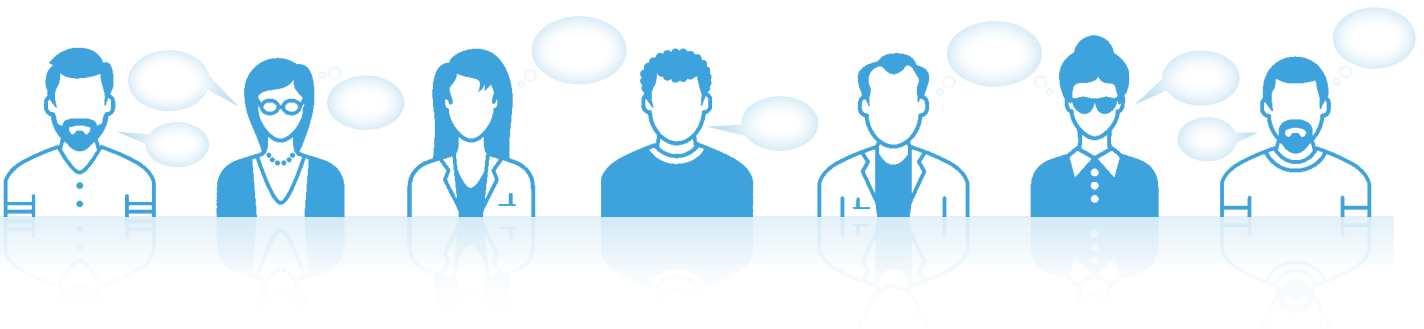
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