FUNDAMENTAL PRINCIPLES OF PEER REVIEW & PEER REVIEW ETHICS

1st J-STAGE Seminar
28 July 2021

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Education Consultant, AsiaEdit
FUNDAMENTAL PRINCIPLES OF PEER REVIEW & PEER REVIEW ETHICS

Agenda

- Introduction to peer review & COPE (Committee on Publication Ethics)
- Aims & models of peer review
- Ethics of peer review
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  - Aims & models of peer review
  - Ethics of peer review
Most scientists regard the new streamlined peer review process as “quite an improvement”.
PEER REVIEW

“PEER REVIEW

A process where peer experts in a particular field of knowledge creation—from scientific research to creative arts production—are invited and accept to review, and provide learned and critical evaluation of the scholarly merit of the researchers’ or creators’ intellectual product.

Deborah Poff, Past Chair, Committee on Publication Ethics, China COPE Seminar 2017, Beijing, China; 26 March 2017

Peer review is the critical assessment of manuscripts submitted to journals by experts who are usually not part of the editorial staff. Because unbiased, independent, critical assessment is an intrinsic part of all scholarly work, including scientific research, peer review is an important extension of the scientific process.


publicationethics.org
PEER REVIEW LANDMARKS

First science journal: *Philosophical Transactions*, Royal Society, 1665

Starts using external peer review (“refereeing”), 1832

First peer-reviewed journal: *Medical Essays and Observations*, Royal Society of Edinburgh, 1731

1950s-60s: *Science & Journal of the American Medical Association* start using peer review

1970s: *Nature & Lancet* start using peer review

1999: *BMJ* switches to open-identity peer review; *BMC* journals start to publish signed peer reviews

2013: Post-publication open-platform peer review at *F1000*

2021: *eLife* peer reviews only preprints

Photocopying
PEER-REVIEWED SCHOLARLY JOURNALS

**Gatekeeping & curation**
- Defines aims & scope, acceptance criteria

**Registration**
- Formal record, correction/retraction, indexing

**Certification (peer review)**
- Quality control

**Production**
- Layout, (editing,) coding, print/online formats

**Dissemination**
- Access, distribution, marketing

**Archiving**
- Persistent identifiers, backup system

**Knowledge & capacity building**
- Metadata/data sharing, education, resources

**Community building**
- News, editorials, user commenting, blogs, events
TRUSTED JOURNALS

THINK

- Do you know the journal & can find papers?
- Publisher contacts?
- Indexing?

CHECK

- Peer review process?
- Fees?
- Editorial board?

SUBMIT

- COPE member?
- If open access: DOAJ?
- INASP platform: Journals Online, AJOL?

https://thinkchecksubmit.org/
PRINCIPLES OF TRANSPARENCY AND BEST PRACTICE IN SCHOLARLY PUBLISHING

- Website
- Name of journal
- Peer review process
- Ownership and management
Journal content must be clearly marked as whether peer reviewed or not. Peer review is defined as obtaining advice on individual manuscripts from reviewers expert in the field who are not part of the journal's editorial staff.

The journal's website should:
- clearly describe this process, as well as any policies related to the journal's peer review procedures including the method of peer review used.

The journal's website should not:
- guarantee manuscript acceptance or very short peer review times.
PRINCIPLES OF TRANSPARENCY AND BEST PRACTICE IN SCHOLARLY PUBLISHING

Governing body

Editorial team/contact information

Copyright and licensing

Author fees

COPE

DOAJ

CASPA

WAME

publicationethics.org
PRINCIPLES OF TRANSPARENCY AND BEST PRACTICE IN SCHOLARLY PUBLISHING

- Allegations of research misconduct
- Publication ethics
- Publishing schedule
- Access
PRINCIPLES OF TRANSPARENCY AND BEST PRACTICE IN SCHOLARLY PUBLISHING

Archiving

Revenue sources

Advertising

Direct marketing
Promoting integrity in scholarly research and its publication

COPE provides leadership in thinking on publication ethics and practical resources to educate and support members, and offers a professional voice in current debates.

Read more
ABOUT COPE

• Provides **support, leadership, and a professional voice** to help preserve and promote the integrity of the scholarly record through policies and practices that reflect current **best principles of transparency and integrity**

• Is an international membership organisation. Our >12,000 **members** are primarily editors and owners/publishers of scholarly journals of all disciplines. We are exploring **expanding membership**, eg research institutions

• Operates, manages, and governs the non-profit organisation with a small group of paid employees and a **group of volunteers** who serve on the Trustee Board and Council
#COPEMembers

JOIN US

JOIN US AT OUR NEXT COPE FORUM
to discuss publication ethics cases sent in by members
COPE RESOURCES

Examples of resources

From our Core practices and our guidelines to useful sample letters and flowcharts, COPE offers a range of useful tools for journal editors and publishers.
COPE CORE PRACTICES
Policies and practices required to reach the highest standards in publication ethics:

- Allegations of misconduct
- Authorship and contributorship
- Complaints and appeals
- Conflicts of interest/Competing interests
- Data and reproducibility
- Ethical oversight
- Intellectual property
- Journal management
- Peer review processes
- Post-publication discussions and corrections
COPE CORE PRACTICE
Peer review processes

All peer review processes must be transparently described and well managed. Journals should provide training for editors and reviewers and have policies on diverse aspects of peer review, especially with respect to adoption of appropriate models of review and processes for handling conflicts of interest, appeals and disputes that may arise in peer review.
G O P E

WHAT TO CONSIDER WHEN ASKED TO PEER REVIEW A MANUSCRIPT

YOU RECEIVE A REVIEWER INVITATION FROM A JOURNAL

Is the journal legitimate?

Yes

No

DECLINE INVITATION

You may want to let the journal know not to contact you again.

READ THE INSTRUCTIONS FOR REVIEWERS PROVIDED BY THE JOURNAL

Do you understand and accept the review model and policies?

Yes

No

DECLINE INVITATION

You may want to give the reason and/or suggest other potential reviewers.

Consider the review model of the journal and the evaluation criteria given.

Consider any potential conflicts of interest - professional, personal or financial - and check the journal's COI policy.

Is author information provided?

No

Yes

DECLINE INVITATION

Contact the Editor or Editorial Office and if confirmed, decline invitation.

Yes

Contact the Editor or Editorial Office and discuss how potential COIs will be minimized; otherwise decline invitation.

https://publicationethics.org/resources/flowcharts/what-consider-when-asked-peer-review-manuscript
HOW TO RECOGNISE POTENTIAL MANIPULATION OF THE PEER REVIEW PROCESS

Recognised Features or Patterns of Reviewer Activity

- Similarity to other peer review reports (particularly from different institutions)
- Third-party agency involvement
- Non-institutional email address
- A review that is vague in style
- Positive review in strong contrast to other reviews (with seemingly grammatical changes)
- Complimentary review but pointed out other technical issues (appearing modeling)
- Review frequently returned well after the deadline

Best Practice to Minimise Peer Review Manipulation

1. **SUBMIT**
   - Require that authors submit manuscripts to the journal themselves.

2. **VERIFY**
   - Try to use institutional emails or institutionally verified ORCID from when inviting peer reviewers.

3. **QUALIFY**
   - Always check that suggested peer reviewers are qualified to review the manuscript and their email address is accurate.

4. **BEHAVIOUR**
   - Check for unusual patterns of behaviour which in combination may suggest peer review manipulation is occurring.

References:
1. COPE Ethical Guidelines for Peer Review
2. COPE Statement on Inappropriate Manipulation of Peer Review Processes
3. Who Reviews the Reviewers? Jigitie Patel
4. Inappropriate Manipulation of Peer Review. Elizabeth Moylan
   - http://bit.ly/3q9lXmN
   - Who Reviews the Reviewers? Jigitie Patel
   - http://bit.ly/3g6e2jY

GUIDELINES:

ETHICAL GUIDELINES FOR PEER REVIEWERS

https://publicationethics.org/resources/guidelines-new/cope-ethical-guidelines-peer-reviewers
COPE Discussion document: Who “owns” peer reviews?

COPE Council

Summary

This document aims to stimulate discussion about ownership rights in peer reviewer reports. Here we set out some of the issues that have arisen in previous discussions around peer review, some of which are specific to various models of peer review. We hope that the concepts discussed assist journal editors and publishers in establishing guidelines and clear policies for handling issues surrounding who owns peer reviews. COPE welcomes additional comments from journal editors, reviewers, researchers, institutions, funders and third party services on this subject.

Reference

What to do if you suspect a reviewer has appropriated an author’s ideas or data

Author alleges reviewer misconduct

Thank author and say you will investigate

Retrieve files (submitted MS and reviews)

Open review (reviewer's identity is disclosed to author)
Anonymous review (reviewer's identity is NOT disclosed to author)

Author accuses actual reviewer of misconduct
Author accuses somebody who was not asked to review the article for your journal

If files are no longer available at journal, request copy from author

NB Do not forget people who refused to review

Note: The instruction to reviewers should state that submitted material must be treated in confidence and may not be used in any way until it has been published.

Note: options depend on type of review system used.

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PRE-PUBLICATION PEER REVIEW

Editor (or Office)

Desk review checks:
- Completeness, adherence to guidelines, writing quality
- Topic / article / study type, quality, bias, ethics
- Data quality & availability, [+ study novelty/impact]

Editor

2-3 Reviewers
Single / Double / Triple anonymised, or “Open identity“ peer review

Peer review criteria:
- Interest, coverage of literature, analysis / interpretation
- Writing style, organization
- Method quality, originality, contribution to field

Accepted, published (& indexed)

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EDITORIAL DECISIONS

**Accept**
- **Accept as is** (unconditional acceptance)

**Revise**
- **Resubmit for review after minor revision**
- **Resubmit for review after major revision**

**Reject**
- **Reject; invitation of resubmission (“soft”)**
- **Reject; no resubmission (“hard”)**
POST-PUBLICATION PEER REVIEW

Office

Desk review checks:
- Intelligible & in good English
- Appropriate (including content, quality, tone, format)

https://blog.f1000.com/author-guidelines/

Editor

> 2 Reviewers nominated by authors
(need approval from 2)

Transparent peer review:
- Open identity
- Open, signed reviews
- Uses public platform

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### Peer Review Models

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<tr>
<th>Author’s Paper</th>
<th>Reviewers’ Reports</th>
<th>Editor</th>
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<tbody>
<tr>
<td>Single anonymised</td>
<td></td>
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<tr>
<td>Double anonymised</td>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
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<tr>
<td>Triple anonymised</td>
<td><img src="image3.png" alt="Image" /></td>
<td><img src="image4.png" alt="Image" /></td>
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<tr>
<td>Open identity</td>
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PEER REVIEW VARIATIONS

Author/reviewer choices
- Author picks model; reviewer can reveal name

Opened/semi-open review
- Reviewers’ names revealed later & published

Open reports (transparent review)
- Reviews published +/- names; +/- revisions (DOIs)

Interactive/collaborative review
- Allowed interaction between parties (eg, cross-reviewing by reviewers; open interaction among parties directly)

Author recommendations
- Author can recommend/exclude reviewers

Portable (pre-submission) review
- Third-party peer reviews commissioned

Cascading/transferable review
- Rejected paper + reviews forwarded

Post-publication commenting
- Online public commenting on articles

https://about.scienceopen.com/what-is-post-publication-peer-review/
# PEER REVIEW INNOVATIONS

<table>
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<th>Registered reports</th>
<th>Patient review</th>
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<tr>
<td>• Protocol peer reviewed before results obtained</td>
<td>• Patients collaborate with editors &amp; reviewers</td>
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<tr>
<th>Results-free review</th>
<th>Fast-track review</th>
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<tr>
<td>• Results &amp; discussion 1st withheld from reviewers</td>
<td>• Priority given to papers on urgent topics</td>
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<th>Re-review opt out</th>
<th>Expedited review</th>
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<tr>
<td>• Author chooses if revision goes only to editor</td>
<td>• Rejected paper bypasses next journal review</td>
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<th>Assisted review</th>
<th>Overlay review</th>
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<td>• Automated checks assist editor</td>
<td>• Preprints reviewed +/- formally published</td>
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PEER REVIEWERS

• **Characteristics:**
  - 2-3 experts in field
  - Know current literature & journal guidelines
  - Willing and available; can keep to deadline
  - Can perform impartial, professional review
  - Declare any conflicts of interest; decline review if needed

• **Examples:**
  - **Qualifications**
    - Typically hold a doctorate
    - Supervisor could be co-reviewer
  - **Expertise**
    - Published at least 3 articles as lead author in a relevant topic
    - At least 1 article in the past 5 years
  - **Impartial**
    - Not close collaborator or be personally associated with author
    - (not co-authored 3 years before Version 1; not co-authored after Version 1; not same institution)
  - **Global**
    - Reviewers from different countries

https://f1000research.com/for-authors/tips-for-finding-referees
TYPICAL REVIEWER CHECKLIST

1. Does article content/style fit journal's mission & readership? [+ Is the study novel/important enough?]

2. - Are Q / aim clear, timely, relevant, interesting?
   - Are references accurate & recent primary sources?
   - Is there enough theoretical grounding?
   - Are methods/analyses appropriate & reproducible?

3. - Are findings/illustrations presented well & discussed in context, with limitations/implications?
   - Are conclusions supported?

4. Is study complete (not salami; no selective/misleading reporting; follows EQUATOR Network guidelines)?

5. List strengths & weaknesses. Recommend improvements (for errors, flaws, arguments, title/abstract, style).

6. Confidential notes to Editor:
   - Any parts not reviewed / need other/statistics review?
   - Any plagiarism, potential legal/ethics problems (inc. fraud, multiple submission, multiple publication, citation bias, no trial registration, © problems)?
   [Recommendation: accept/revise/reject?]
CRITICISMS

- Slow, inefficient; need to contact many reviewers to find 2-3
- Reviewer pool limited; lack of succession plan, training
- Subjective; variable quality; can be opaque
- Disagreement between reviewers likely
- Lack of diversity; groupthink
- Researchers know each other in some fields; difficult to anonymise
- Reviewer burnout; low incentive
- Difficult to detect fraud, irreproducible data

https://europepmc.org/article/med/28580134
ETHICAL ISSUES IN SCHOLARLY PUBLISHING

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2829174/ (CC BY)
REPRODUCIBILITY IN SCHOLARLY PUBLISHING

Reproducibility and reliability of biomedical research: improving research practice
Symposium report, October 2015
(The Academy of Medical Sciences, CC BY)

https://acmedsci.ac.uk/file-download/38189-56531416e2949.pdf
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...“peer review and citation ring,” 60 papers retracted... retractions... bring total fake peer review count to 250

The Peer Review Scam: How authors are reviewing their own papers

Major publisher retracting more than 100 studies from cancer journal over fake peer reviews
PEER REVIEW FRAUD

• **Author level** *(journal over-relying on & not checking author-recommended reviewers)*
  o Mutual review among colleagues, hiding conflicts of interest
  o Fake name or known expert’s name with fake email address owned by colleague or self
    (fake review by colleague or self)
  o With or without author’s knowledge: unethical third party offers online submission assistance
    and recommends fake reviewer details (fake review by company)

• **Author or third party**
  o Hacks into & alters records in journal review system

• **Journal/publisher level**
  o Guaranteed publication for fee (peer review absent, too fast, of low quality, or faked)
  o Fake journal submission platform
  o Fake guest editor of theme/special issue organises fake/substandard review
  o Journal editorial board bypasses proper review to publish in own journal
UNETHICAL PEER REVIEW

Nightmare scenario: Text stolen from manuscript during review

“"I am really sorry:” Peer reviewer stole text for own paper

Dear peer reviewer, you stole my paper: An author’s worst nightmare

Chem journal yanks paper because authors had stolen it as peer reviewers
1. A peer reviewer notices ~2/3 data in a submitted paper have been described before. The editors suspect salami publication. What should they do?

2. An author references her past studies in a submitted paper, but some paragraphs are plagiarised. However, when the editor contacts the author’s institution, it says the author has already been transparent by citing her past work. What should the editor do?

3. An author publicly but wrongly names and blames a reviewer for rejecting a paper. The editors/reviewers/authors agree to publish the positive peer review report in a journal blog. What else should happen?

4. A handling editor notices a reviewer has been recommending that authors cite many of the reviewer’s own works. Apart from banning the reviewer from reviewing, what else can be done?
Peer reviewers play a role in ensuring the integrity of the scholarly record. The peer review process depends to a large extent on the trust and willing participation of the scholarly community and requires that everyone involved behaves responsibly and ethically. …Journals have an obligation to provide transparent policies for peer review, and reviewers have an obligation to conduct reviews in an ethical and accountable manner. Clear communication between the journal and the reviewers is essential to facilitate consistent, fair and timely review.

COPE Ethical guidelines for peer reviewers
https://publicationethics.org/files/cope-ethical-guidelines-peer-reviewers-v2_0.pdf
ETHICAL PEER REVIEW 1

1. Declare conflicts of interest (before/during review)

**COIs:** Connected to project / grant or funding, current collaborator, recent co-author/mentor/mentee, disagreement, public viewpoint

2. Give correct personal details; do not impersonate others or manipulate peer review

3. Reply quickly to invitation after checking abstract/manuscript

4. Decline if no time, wrong area of expertise, or you do not accept journal’s peer review model

5. Recommend other peer reviewers neutrally and truthfully

6. Do not forward (eg, to postdoc/colleague) without permission

7. State if you had help or did not review parts

8. Do not contact authors
ETHICAL PEER REVIEW 2

9. Keep to deadline and journal guidelines; do not delay review / publication for personal gain or revenge

10. Be concise, courteous, and constructive

11. No libel; no bias; no (self-)plagiarism

12. Recommend references only if relevant

13. Keep manuscript & peer review report/process confidential (check journal policy: who owns review?)

14. Destroy / delete materials after review

15. Do not use information/ideas until after publication and citation

16. Inform journal if you know author identity (double-anonymised review) or suspect ethical problems

Joint investigations (permission may be needed if peer review report is to be used in investigations):
Cooperation & Liaison between Universities & Editors (CLUE): recommendations on best practice:
PEER REVIEW DEVELOPMENTS

Peer review standardisation

A Standard Taxonomy for Peer Review
https://osf.io/68mz/

Reviewer training, diversity

https://researcheracademy.elsevier.com/navigating-peer-review/certified-peer-reviewer-course
https://ioppublishing.org/peer-review-excellence/

Review recognition, incentive

https://publons.com/
https://wwwReviewercredits.com/

Public post-publication commenting

https://pubpeer.com/

Preprint peer review


Peer recommendations

https://facultyopinions.com/
https://collectionsblog.plos.org/author/channels/
https://prelights.biolists.com/
https://peeriodicals.com/

Peer review research, promotion

https://peerreviewcongress.org/ https://peerreviewweek.wordpress.com/
PEER REVIEW CORE PRINCIPLES (European Science Foundation, 2011)

- Excellence
- Impartiality
- Transparency
- Appropriate-ness of purpose
- Efficiency & speed
- Confidentiality
- Ethical & integrity considerations in submissions
- Efficiency & speed
- Confidentiality
- Ethical & integrity considerations in submissions

5 Pillars supporting good practices of review with quality and equity

Monument to an Anonymous Peer Reviewer

Institute of Education, National Research University
Higher School of Economics (HSE University), Moscow,
26 May 2017

5 faces showing results of peer review:
Accept/Reject/Major changes/Minor changes/
Revise & Resubmit

“Reviewers are ‘invisible heroes in science’”
Igor Chirikov, HSE University
https://www.nature.com/articles/nature.2017.22060

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THANK YOU
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