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Beyond Compliance: Rooting Ethics in Peer Review for a Transformative Publishing Landscape

Session Introduction

There should be a larger conversation of ethical infrastructure as a whole because ethics are deeply rooted at the core of peer review and publishing models.

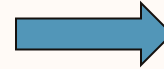
Reflection Exercise:

To get your gears turning, what would you do in this situation?

Ethics Are Inherent to Peer Review


Existing Ethical Scaffolding in Peer Review

| Safeguarding Knowledge | Fairness & Impartiality | Confidentiality |
|--|--|---|
| Reviewers filter or safeguard what enters the scientific record. | Judging work on merit, avoiding conflicts of interest. | Protecting unpublished ideas from misuse. |
| Respect & Constructive Critique | Responsibility to Community | Integrity of Scholarship |
| Balancing rigor with professionalism. | Decisions affect future research and public trust. | Checking for plagiarism, misconduct, unethical methods. |



While ethics are embedded in peer review, they are not always supported.

Ethics in publishing requires system-wide dialogue and collaboration.



Peer review, editorial policies, author rights, and community trust are interconnected. It's a shared responsibility.



Building an Ethical Peer Review Infrastructure

- 01 Responding effectively to ethical breaches
- 02 Training and supporting reviewers for ethical practice
- 03 Leadership's role in upholding integrity
- 04 Leveraging technology responsibly
- 05 Monitoring trends: heatmap insights

Most Frequent Ethical Breaches in Peer Review & Publishing

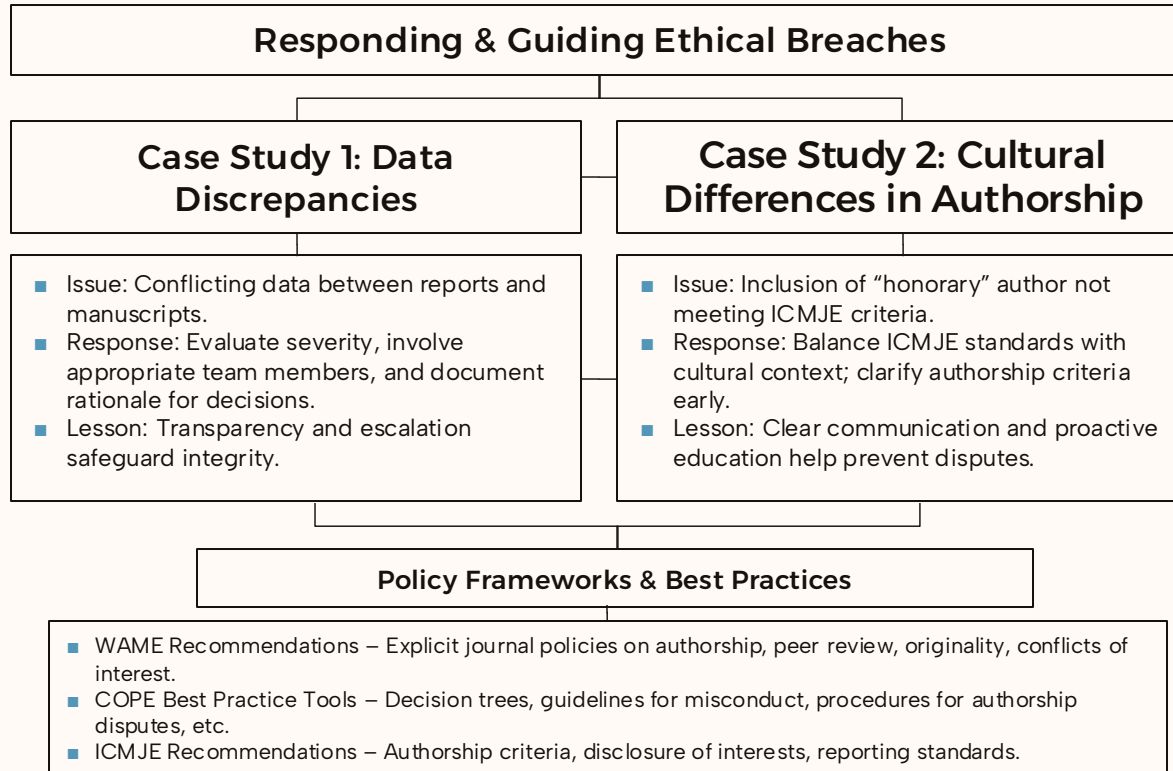
Authorship Issues: Honorary/gift authorship; unverified co-authors

Research Misconduct: Plagiarism; data fabrication and falsification

Peer Review Misconduct:

- Reviewer bias and low-quality reviews
- Fake reviewer identities
- Coercive citations and personal attacks
- Deliberate delays in publication
- Breach of confidentiality; misuse of ideas or data

Case Studies + Policy Frameworks



Why Reviewer Training Matters & Existing Programs

Types of Reviewer Training Programs

| Program | Purpose |
|---------------------------------------|---|
| Formal online modules | Introduce peer review principles, ethics, journal expectations (C4DISC, 2023) |
| Mentorship / shadowing | Pair new reviewers with experienced editors for guidance (C4DISC, 2023) |
| Certification programs | Recognize mastery of reviewing skills (C4DISC, 2023) |
| Open peer review / community feedback | Build practical experience, confidence, and ethical awareness (C4DISC, 2023) |
| Specialty workshops / webinars | Focus on discipline-specific skills and updates (C4DISC, 2023) |

Why It Matters

- Promotes ethical, fair, and consistent peer review
- Reduces reviewer errors and misconduct
- Enhances reviewer confidence and career development
- Strengthens journal credibility and research integrity

Training ethical reviewers sets the stage, but how do leading journals support ongoing development?

Supporting Reviewer Development & Evidence of Effectiveness

Guidelines & Standards

- Provides clear instructions on peer review processes and ethics
- Ensures consistency, transparency, and ethical rigor Sources: Thieme, Wiley, ScienceDirect, NCBI (Thieme, 2025), (Wiley, 2025)

Recognition & Structured Processes

- Recognition programs: Acknowledge reviewers through certificates, public credit, or CME rewards (APA, 2025)
- Structured review: Use templates, checklists, and rubrics to clarify expectations and reduce errors (OpusProject, 2025)

Training & Mentorship

- Pair junior reviewers with experienced mentors
- Offer workshops, exercises, and case-based training to increase competence Sources: APA Reviewer Mentorship, PedPsych (APA, 2025), (PedPsych, 2025)

Recognition & Structured Processes

- Ethics and peer review training improves knowledge, confidence, and adherence to standards
- Active, participant-focused methods (case studies, role-plays, debates) are most effective
- Combining guidance, structured processes, and recognition strengthens reviewer performance Sources: ScienceDirect 2014; PMC 2019; BMC 2013; Watts et al., 2021, (ScienceDirect, 2014) , (PMC, 2019), (BMC, 2013)

Role of Leadership in Peer Review

- Editors-in-Chief (EiCs): set standards, enforce policies
- Deputy Editors (DEs): monitor review process, manage conflicts
- Editorial Boards: provide oversight, policy guidance
- Leadership as part of journal infrastructure: ensures integrity is embedded in processes
- Ensures transparency, fairness, accountability



Leadership Intervening & Governing for Ethical Peer Review

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graph TD; A[Leadership Intervening & Governing for Ethical Peer Review] --> B[Examples of intervention]; A --> C[Governance models]; B --> D[Investigate misconduct or bias]; B --> E[Reassign manuscripts or reviewers]; B --> F[Issue corrections, retractions, or notices]; C --> G[Ethics committees / subcommittees]; C --> H[Clear reporting & escalation pathways]; C --> I[Regular leadership ethics training];
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Examples of intervention

Investigate misconduct or bias

Reassign manuscripts or reviewers

Issue corrections, retractions, or notices

Governance models

Ethics committees / subcommittees

Clear reporting & escalation pathways

Regular leadership ethics training

AI and Technology in Peer Review

Use of AI Tools

- **Plagiarism Detection:** AI tools can automatically scan manuscripts for text duplication, ensuring originality (TSP, 2022; PMC, 2023).
- **Image Manipulation Detection:** Algorithms can flag potential image fraud, duplicated images, or inappropriate adjustments (Cureus, 2023; Springer, 2025; JKMS, 2024).
- **Reviewer Assignment:** AI-assisted systems can match reviewers based on expertise, availability, and past performance, streamlining editorial workflow (Springer, 2025; JKMS, 2024).

Additional Consideration: Integrating AI into Ethical Oversight

- AI should be seen as a supportive tool, not a replacement for human judgment.
- Journals can combine AI screening with editorial policies, reviewer training, and governance frameworks to maintain integrity.
- Continuous evaluation and auditing of AI systems are critical to minimize bias and maximize transparency.

Risks and Ethical Considerations

- **Bias:** Automated systems may favor certain authors, institutions, or research topics, unintentionally introducing inequities (ScienceDirect, 2025; Frontiers, 2025).
- **Overreliance:** Heavy dependence on AI may reduce critical human oversight, allowing errors or misconduct to slip through (COPE, 2025; ESCI, 2023).
- **Transparency Concerns:** Decisions made by AI tools may lack clarity, and authors or reviewers might not understand the rationale behind AI-generated outcomes (BMC, 2023; COPE, 2025).

Case Studies: Benefits and Challenges

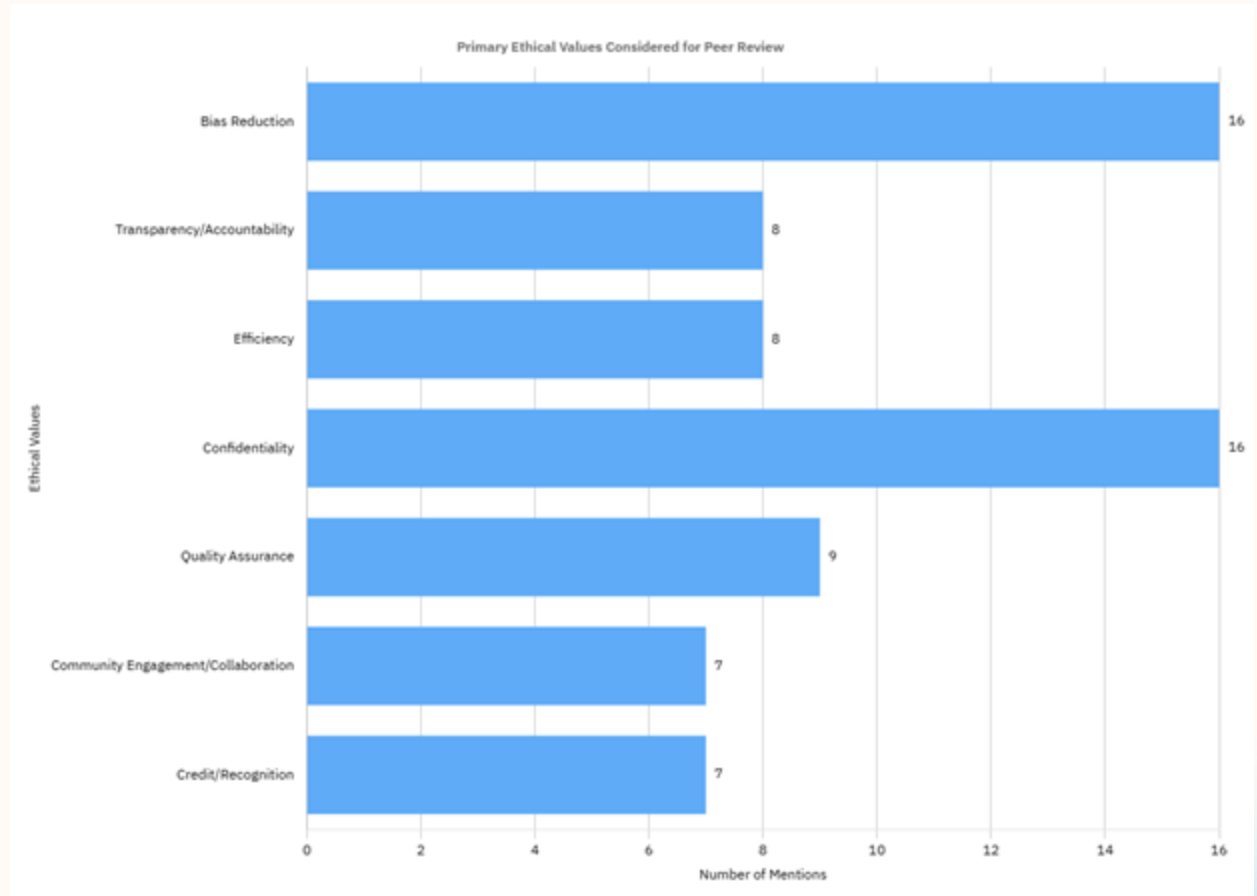
- **Positive Impact:** AI-detected instances of plagiarism and unethical submissions that human reviewers had missed (ScienceDirect, 2023).
- **Complications:** In some cases, AI-generated flags led to false positives, disputed rejections, or confusion about ethical responsibility (Wiley, 2023; PMC, 2005–2006).

Data Visualization: Peer Review Ethics Heatmap



Selecting Ethical Comparison Criteria

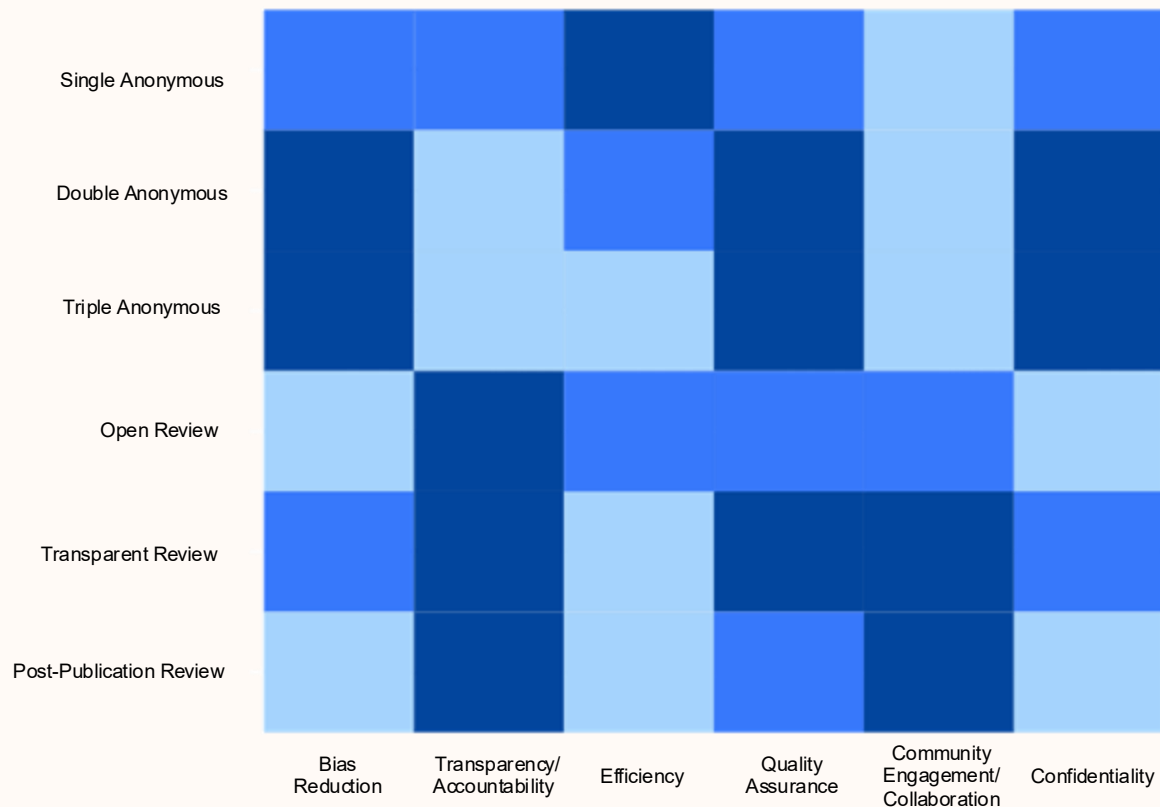
Analyzed for ethical keywords across 21 sources—publishers, publishing authorities, ethics organizations. (i.e. COPE, Taylor & Francis, Cambridge University Press, American Chemical Society, etc.)



Legend High Medium Low

Peer Review Ethics Heatmap

Type of Peer Review



Ethical Comparison Criteria

What the Heatmap Tells Us



Ethical Priorities Are Not Universal

Ethical priorities vary across organizations and models.



Ethical Trade-offs

Different peer review models balance ethical values differently, making trade-offs inevitable but manageable. No single peer review model satisfies all ethical priorities.



Strategic Alignment

Selecting peer review models should reflect the values of the communities involved.



Diagnostic Tool

Use this heatmap as a diagnostic tool for your organization's priorities.



Reflective Practice

Ongoing awareness and evaluation of ethical priorities is essential in peer review models.

Where Do We Go From Here?

Key Takeaways:

- Ethics are central to peer review and require ongoing dialogue.
- Peer review models should reflect your organization's values.
- Ethical infrastructure is a strategic tool.

Sustaining Ethical Practices:

- Regularly update policies for new challenges.
- Promote continuous learning and mentorship.
- Encourage open communication to identify risks.

Next Steps / Encouragement:

- Reflect on your core values and how they guide peer review.
- Use tools like heatmaps to evaluate and improve practices.
- Build or adapt systems that serve your community ethically.

Impact:

- A values-driven system builds trust, credibility, and strengthens your publishing program.

Thank you!



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References

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