

Research Article Peer Review Questions

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This checklist is based on the [Research Article Self-Check Questions](#) document (authors: B. Vobrubová, A. Chodounská, O. Martinová, A. Urban, S. Krueger). The original checklist was intended for manuscript authors, to help them with the final preparations. This checklist, while containing identical/similar points, is tailored to meet the needs of peers reviewing someone else's scientific article.

This checklist:

Is intended as a **checklist for reviewers**, especially if you are reviewing an article or essay for a friend or colleague.

Summarizes **general points** relevant to all reviewers.

If you are **reviewing an article for a journal**, first check the journal Reviewer Guidelines and make sure your review follows them. Before becoming a peer reviewer for a journal, we recommend reading [COPE Ethical guidelines for peer reviewers](#).

Items marked by * are relevant when reviewing for a specific journal. They might not be relevant for a general peer-to-peer review for your colleagues.

If you have questions, schedule a consultation with us:
<https://www.techlib.cz/en/83810>

Reviewer's Tone and Attitude

- Be positive and respectful in your attitude as well as tone. Your remarks shouldn't go *ad hominem*: focus primarily on the manuscript, not the people who wrote it – comments targeting the author's (in)experience etc. are not recommended.
- Give detailed reasons for all your comments and objections.
- If possible, try to express any criticism as constructive advice. Always ask yourself: Can gaps be filled, errors corrected, faulty arguments rectified?
- Have you clearly marked off major objections from minor comments so that the editor and/or authors can tell how serious your respective criticisms are? Is the perceived level of seriousness appropriate?
- Do not pull your punches, but always give your colleague(s) the benefit of doubt. (Never accuse anyone of misdemeanors simply on a hunch, without solid proof.)



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General

- *Does the journal provide instructions for reviewers? If so, did you read them thoroughly before starting the review?
- *Did the author(s) follow all the instructions in the journal's Author Guidelines? Pay attention to the instructions regarding length of abstract, length of the manuscript, number and length of highlight points (if applicable), dimensions of graphical abstract (if applicable), structure of the chapters, citation style, and formatting.
- Is the manuscript written in a clear, understandable, and professional manner?
- Is it apparent why the study was conducted and what it contributes to the discipline?

Throughout the Text

- Is the terminology consistent and correct throughout the manuscript? Are all relevant abbreviations explained (apart from generally known abbreviations such as EU or DNA)?
- Are there any typos or layout problems?
- Is the text grammatically correct?
- Are all information sources properly cited, including DOIs (if applicable)?

Title

- Does the title reflect the main point of the article?

Abstract and Keywords

- Does the abstract provide a complete summary of the article? Do you understand the most important aims, methods, and results of the study upon reading it?
- Does the abstract accurately reflect the content of the article?
- Does the manuscript contain a graphical abstract? Does the abstract accurately represent the main point of the article? Is it easy to understand?
- Does the manuscript contain highlights? If yes, is there an appropriate number of points? Are they clear and concise? Do they reflect the main points of the manuscript?
- Are the keywords appropriate for the topic of the manuscript? Do they usefully complement the title and potentially boost the visibility of the manuscript in databases, or do they merely repeat words already in the title?
- Do the keywords appear to be standard (e.g., from an ontology) or rather unusual? Are they likely to be used by those searching for this article?

Introduction & Literature Review

- Does the study clearly explain its research problem? Is there a clearly defined hypothesis/research question/aim?
- Does the introduction explain why it is important to address the issue? Is it clear why the study was conducted?
- Does the text of the introduction and the literature review capture the state-of-the-art? Is the state-of-the-art description concise and to the point? Is the referenced literature up-to-date? (If need be, skip over to the final list references.)

- What is the study's contribution to the field? Are the findings expanding the field or does the study examine something already known?

Methods

- Do the authors clearly explain their choice of methods, including limitations?
- Are all methods, materials, and tools used in the research meticulously described and/or referenced? Could the research be replicated based on the description of the materials and methods?
- Are the statistical methods appropriate for the collected data?

Results

- Are all results described clearly and comprehensibly?
- Do the results include all the information necessary for their interpretation, e.g., *P*-values, units (if applicable)?
- Are all used units (if applicable) SI, or common in the field? If not, do the authors explain the use of unusual units?
- Are the results supported by figures and tables whenever appropriate?
- If there are equations, are they logically presented, and formatted as required by the journal? Are the equations clear, with all variables explained?

Discussion & Conclusion

- Are all the hypotheses/research questions addressed and discussed? Is it clear whether they were confirmed/rejected/answered?
- Are the claims in the Discussion section supported with appropriate literature? Do the authors discuss the extent to which the results are consistent with or divergent from similar studies?
- If some findings deviate from expectations, do the authors explain why?
- Do the authors provide a description of the limitations of their study and address them appropriately? Do they discuss the implications and/or recommendation for future research and potential real-world applicability? Do you see any limitations that the authors have missed?

Figures (Charts, Graphs, and Pictures)

- Are all figures truly the best way to present the findings? Or, are they included simply for the sake of making the article more visually appealing?
- Are all figures properly referenced in the text?
- Does every caption/note clearly and concisely explain what the figure is depicting? Does the legend describe all the symbols, units, and scales used in the figure?
- Are all figures easy to read? Are all the lines and symbols easy to distinguish even if the figures were printed in lower quality? Are they using a color palette readable by those who are color-blind?

Tables

- Are all the tables the most appropriate way to present the findings? Is all the information in the table necessary, or can some of it be moved to the text, or the appendix, and/or supplementary information?
- Does every column have a legend/heading? Are units for all the measurements included?
- Are all listed measurements reasonably accurate, do they have the appropriate number of decimal places, and so on?
- Are all tables properly referenced in the text?
- Does the data in tables match the information presented in the text?
- Does every title/caption/note clearly and concisely explain the contents of the table?

References

- Does the reference list include all citations listed in the text? Do all references have a corresponding in-text citation?
- In the text itself, is it clear which parts of the text are original and which paraphrased?
- Do the references contain recent developments in the field? Do they reflect the current state of knowledge?
- Is there a description of how readers can access the research data (e.g., research data published in an online repository)?
- *Does the target journal require data to be available online? If so, did the authors follow the journal's data availability policy?

Acknowledgements, Funding, Disclosures¹

- *Does the journal allow the use of generative AI/LLMs? If you feel AI was used for something not listed in the guidelines, you can mention it in a note to the editor.
- Do the authors clearly state whether they used AI and if yes, for what purpose(s)? Is the AI tool cited, if required?
- Did the study require approval by an Ethics Committee or Institutional Review Board? Do the authors provide information about when the study was approved and by whom? (Especially relevant for those working with humans, animals, or sensitive issues.)
- Are any potential conflicts of interest clearly stated?
- *If you feel that the authors have not followed the ethical guidelines of the journal or ethical norms in academia more generally, notify the editor immediately.

Supplementary files

- Does the supplementary information broaden our understanding of the findings, or does it rather address something not fully discussed in the text? If the answer is the latter, you could recommend that the authors address this information in a separate article.

¹ If you are reviewing for a journal with a double-blind peer review, this information might not be available to you.

- Do the supplementary files contain crucial information necessary for understanding the article? If yes, this information should be integrated into the article.
- Are supplementary tables and figures properly labelled and explained? Are the supplementary files in a commonly used format (e.g., pdf or docx)?

Reviewer Guides from Selected Publishers

Publishers usually have instructions for reviewers on their website, detailing what they expect from both reviewers and their reviews. Below you can find examples of reviewer guidelines for sample publishers. Some of them contain links to their own reviewer checklists.

Elsevier: Reviewer Hub <https://www.elsevier.com/reviewer>

Springer: Peer review guidance <https://www.springer.com/gp/campaign/discover-journals/reviewer-guidelines?srsId=AfmBOorbemz7ur6ti4o7ma7YiPdE7exZpjva9dcCUPf3bUvp1qNuTa4N>

Taylor and Francis: Guidelines for peer reviewers
<https://editorresources.taylorandfrancis.com/reviewer-guidelines/>

Wiley: Reviewer guidelines
<https://onlinelibrary.wiley.com/page/journal/10991476/homepage/reviewers>

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