

# What you need to know about ETHICAL ISSUES when Writing a Scientific Paper



The most common Ethical Problems found in scientific papers (and how to avoid them):

	<i>Definition</i>	<i>How to Avoid</i>
<b>Plagiarism</b>	Taking the work of another. Copying a figure, table, data, or even wording from a published or unpublished paper without attribution.	Provide citations to the work of others. Do not copy exact wording from another's paper to yours, even if referenced, unless in quotes.
<b>Duplicate Publication</b>	Submission of or publication of the same paper or substantial parts of a paper in more than one place.	Do not submit the same paper or parts of that paper to more than one journal at a time. Wait until your paper is rejected or withdraw it before submitting elsewhere.
<b>Redundant Publication</b>	Using data from another paper (usually your own) in a new paper. Also called auto- or self-plagiarism.	Do not use data from a previous study, even for statistical analysis. Repeat necessary control groups for each experiment.
<b>Falsification and Fabrication</b>	Changing or making up data in a manuscript, usually to improve the results of the experiment.	Paper should reflect exactly the protocol followed and the results in the experiment.
<b>Figure Manipulation</b>	Altering a figure so that the published figure does not match exactly the image or data acquired.	Do not obscure, move, remove, or introduce information or features. Do not combine parts of different figures so that they look like one. Any manipulations must apply to the whole image and be disclosed.
<b>Human/Animal Welfare Issue</b>	Treatment of animal or human subjects that does not meet standards or journal policy.	You must have IRB or IACUC approval for the study protocol. Do not deviate from the approved protocol.
<b>Conflict of Interest</b>	Real or perceived conflict due to employment, consulting, or investment in entities with an interest in the outcome of the research.	Disclose all potential conflicts to the Editor of the journal and within the manuscript.
<b>Authorship</b>	Disputes arising from addition, deletion, or change of order of authors.	Agree on authorship before writing begins, preferably at the start of the study. Sign publishers' authorship forms. All authors should have made a substantial contribution to the paper.

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