



Scientific Research and Ethics

The unethical acts in scientific research are many but not limited to the below:

1. Publication of the results without permission of all the researchers.
2. Non acknowledgment of all the researchers who contributed to the work.
3. Deliberate fabrication (making) of data collected to conduct the research.
4. Passing other research result as own.
5. Deliberate ommission of know data that does not match with hypothesis.
6. Ommit or misrepresenting other's previous work in the domain and claim originality.
7. Repeat publication of the same work (same results).



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- **Research Misconduct***

- Research misconduct means fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results.
- (a) Fabrication is making up data or results and recording or reporting them.
- (b) Falsification is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.
- (c) Plagiarism is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit.
- (d) Research misconduct does not include honest error or differences of opinion.
- * From the office of research integrity USDHHS. <https://ori.hhs.gov/definition-research-misconduct> Accessed Feb 24th 2024.



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Ethical Scientific Research Guidelines:

Intellectual freedom

Scientists are free to pursue new ideas and criticize old ones and conduct research on anything that have positive impact on human and environment or that mitigate negative impact on the same. It is practiced with respect for others, with a professional conscience ensuring the expression of critical opinions (Articles 74 and 75 of the 2020 Constitution).

Scientific honesty & integrity

- Scientists should not commit scientific fraud by, fabricating, “fudging: تزوير.Ar,” trimming, “cooking,” destroying, or misrepresenting data specially for statistical fields.
- To ensure that the integrity of the data is preserved, have one individual enter the data and another individual clean and validate them. Also, back up your data onto an external support (server, hard disk or any mean of archiving)
- Data/results must be reported directly as it is, not through a filter based that your audience like; and don't delete any finding or data even if you're sure they're irrelevant.
- Disclose alterations you've made and explain why you made them.
- Do not deceive colleagues or any partner/sponsor to your research.



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Ethical Scientific Research Guidelines:

Objectivity

- Strive to avoid bias in experimental design, data analysis, data interpretation; work without being influenced.
- May it is not possible to avoid bias but try to reduce it by accepting peer review, personnel decisions, expert testimony, and other aspects of research where objectivity is expected or required.
- Avoid or self-deception. Disclose personal or financial interests that may affect research.
- If you do not try to be objective and fight subjectivity , you rise the likelihood that you may misinterpret data and results.
- Employing control groups especially for data management and blinding mechanisms is essential to reduce subjective influence. Systematic data gathering (data through interviewing, questionnaires, and other methods), coupled with **impartial analysis** will make you able to give a fair opinion or decision.



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Ethical Scientific Research Guidelines:

- **Carefulness**
- Think carefully about something you will make a decision about; try to give the most serious consideration for that.
- Avoid careless mistakes, errors and negligence; carefully scan work to be published and ensure that no misleading mistakes are made.
- carefully and critically examine your own work and the work of your peers. Keep good records of research activities, such as data collection, research design, and correspondence with mentors or agencies or any organization involved in domain of research.



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Ethical Scientific Research Guidelines:

- **Openness and Transparency**

- Share data (in respect to owner confidentiality), results, ideas, resources. Be open to criticism and allow other researchers to see your findings/work.
- offering public access to publication, data, and other research materials, which enables circulation of scientific knowledge, and more opportunities for replicating and building upon scientific findings.
- In our days openness in research means to conduct research in the spirit of making methodologies and documentation freely and openly available via the internet (dedicated platform like Edx & Coursera, youtube channels).
- Open research allows better collaboration, and more participation, and equality in the research world. The access to high-quality data makes new kinds of products, services, and promote research.
- [CODATA](#) is the Committee on Data of the International Science Council (ISC).
- The [European Open Science Cloud \(EOSC\)](#) and [OpenAIRE](#) are examples of European projects that support Open Science
- Research transparency is the sharing and dissemination of research and research outcomes within the scientific community and interested public. To maintain transparency you should be **accountable**; so be able to give an account (explanation or justification) of what you did on a research.