

**LECTURE 31**  
**RESEARCH MISCONDUCTS**

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What are research misconducts?



- (a) Fabrication - making up data or results and recording or reporting them.
- (b) Falsification - manipulating research materials, or changing or omitting data or results such that the research is not accurately represented in the research record.
- (c) Plagiarism - 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

Some research behaviours are so at odds with the core principles of science that they are treated very harshly by the scientific community and by institutions that oversee research. Anyone who engages in these behaviours is putting his or her scientific career at risk and is threatening the overall reputation of science and the health and welfare of the intended beneficiaries of research.

In addition, the federal statement says that to be considered research misconduct, actions must represent a “significant departure from accepted practices,” must have been “committed intentionally, or knowingly, or recklessly,” and must be “proven by a preponderance of evidence.” According to the statement, “research misconduct does not include differences of opinion.”

Some research institutions and research-funding agencies define scientific research misconduct more broadly. These institutional definitions may add, for example, abuse of confidentiality in peer review, failure to allocate credit appropriately in scientific publications, not observing regulations governing research, failure to report misconduct, or retaliation against individuals who report misconduct to the list of behaviours that are considered misconduct. In addition, the National Science Foundation has retained a clause in its misconduct policies that includes behaviors that seriously deviate from commonly accepted research practices as possible misconduct.

## TYPES OF RESEARCH MISCONDUCT

There are different types of research misconduct or scientific misconduct and unethical practices in research. The most serious ethical infractions are fabrication, falsification, and plagiarism in research. Some of the most common types of research misconduct have been detailed below.

*Fabrication:* This refers to the practice of making up data without having done the required research. Research misconduct covers not only the act of fabrication, but also the sharing, discussing, or publishing of this fabricated data or results.

*Falsification:* This type of scientific misconduct involves the wilful manipulation of data, materials, processes, or equipment to arrive at a predefined conclusion. One such example would be selectively omitting or changing data, which results in the erroneous representation of research results.

*Plagiarism:* This is one of the most common types of scientific misconduct, and involves using another person's ideas, content, writing, processes, or results without giving due credit. This also includes *self-plagiarism*, which occurs when you replicate your own writings or ideas from previously published research without providing proper credit.

*Authorship:* This type of scientific misconduct in research includes attempts to assign false authorships without adequate contribution to research, mentioning authors without their consent, or failing to include authors who are original contributors. Naming authors in the wrong order or incorrectly is also considered unethical.

*Conflicts of interest:* This can be classified under general scientific misconduct and involves lapses by researchers in declaring any conflict of interests in their research work. These conflicts of interest may be financial, personal, and professional and need to be reported appropriately to avoid any ethical issues.

*Approvals:* One of the most important aspect of research that involves human or animal subjects is adhering to all the ethical approvals and legal guidelines. Non-compliance with this ethical mandate is considered a serious type of research misconduct.

## REASONS FOR COMMITTING RESEARCH MISCONDUCT

Over time there have been varied reasons for researchers to succumb to scientific misconduct. Let us look at 5 reasons for committing research misconduct.

*Career pressures:* An important factor often associated with research misconduct is the undue pressure researchers face. They need to conduct original research in a fast-paced environment, publish frequently in peer reviewed journals, and procure funding for research projects to advance their research career. This along with the need to juggle multiple responsibilities against tight deadlines create undue stress to succeed at any cost, leading to a lack of care or even deliberate research misconduct.

*Researcher's personal psychology:* Some researchers may be overly driven by a desire to quickly attain a strong professional reputation or even financial gains, which could push them to research misconduct.

*Lack of appropriate training and skills:* The lack of training on the best practices and ethical guidelines to be followed as researchers is another reason for research misconduct. Poor awareness and understanding on these issues often lead to unethical conduct in research.

*Insufficient supervision or mentoring:* Related to the point above, this relates to situations where researchers, especially early career researchers, fail to receive sufficient and appropriate support from immediate supervisors or from their affiliated institution. A lack of oversight and guidance may knowingly or unknowingly lead to research misconduct.

*Inadequate knowledge:* Scientific misconduct can occur if the researcher does not have sufficient knowledge of the topic/subject or on research best practices. Carelessness when conducting research and reporting it are also considered research misconduct.

RM MOOC UPRI 2025