SCIENTIFIC MISCONDUCT: PLAGIARISM, FABRICATION & FALSIFICATION

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SCIENTIFIC PROFESSIONALISM

RESPONSIBLE CONDUCT OF RESEARCH (RCR)

SCIENTIFIC MISCONDUCT

PLAGIARISM, FABRICATION AND FALSIFICATION
Learning Goal

Understand issues related to scientific misconduct viz.:

➤ Plagiarism

➤ Fabrication

➤ Falsification
Learning Objectives

- Define Scientific Misconduct
- Explain Implications
- Suggest Ways for Curbing
Define SCIENTIFIC MISCONDUCT

- often interchangeably used with the term *research misconduct*.

- *violation* of the standard codes of scholarly conduct and ethical behaviour in *professional scientific research*.

- The **USA Office of Research Integrity** defines scientific misconduct as *fabrication, falsification or plagiarism* in proposing, performing or reviewing research or in reporting research results ([http://ori.hhs.gov/policies/fed_research_misconduct.shtml](http://ori.hhs.gov/policies/fed_research_misconduct.shtml))
ACTIVITY

List the implications of scientific misconduct on the integrity of research as well as on society (5 minutes).

The three class groups will discuss this issue separately.
PLAGIARISM

• Appropriation of another person’s idea, processes, results or words without giving the appropriate credit

- Perhaps the simplest way to detect plagiarism is using computer-aided software such as Turnitin.
- In general, <20% of similarity index is deemed acceptable (Turnitin).

http://raugallery.flyingomelette.com/plagiarism.html
ACTIVITY

Read the following original passage from Oliver Sacks' essay "An Anthropologist on Mars" published in 1995

“The cause of autism has also been a matter of dispute. Its incidence is about one in a thousand, and it occurs throughout the world, its features remarkably consistent even in extremely different cultures.”

1 & 2 below are two examples of ways to cite the original passage. Both were tested for plagiarism; which example if any, would you consider to be an example of plagiarism?

Example 1: The cause of the condition autism has been disputed. It occurs in approximately one in a thousand children. It exists in all parts of the world. Its characteristics strikingly similar in vastly differing cultures (Sacks, 1995).

Example 2: In his essay Sacks (1995) indicated some of the known facts about autism, which included that the condition occurred in roughly one out of every thousand children as well as characteristically similar across varying cultures.

A: 1  B: 2  C: Both  D: Neither
Answer is A

Example 1: Most of these sentences do little more than substitute one phrase for another. An additional problem with this passage is that the only citation occurs at the very end of the last sentence in the paragraph. The reader might be misled into thinking that the earlier sentences were not also indebted to Sacks' essay.

- Illegitimate paraphrase

Example 2: Notice that this passage makes explicit right from the beginning, that the ideas belong to Sacks, expressed in his/her own way.

- legitimate paraphrase
Should repeating one`s own words in subsequent publications be considered to be plagiarism?
FABRICATION

• Making up data or results and recording and reporting them ([http://ori.hhs.gov](http://ori.hhs.gov)).

Overview of the Darsee Case

John R. Darsee was a young clinical investigator in cardiology at the Brigham and Women's Hospital (a teaching affiliate of Harvard University) who published many research studies and included faculty members as authors on the work although they had minimal or no direct involvement in the papers that bore their names.

In May of 1981, Darsee's associates and supervisors at Harvard caught him fabricating data. Other investigations led to the conclusion that Darsee fabricated research publications beginning when he was a biology student at Notre Dame, continuing through his medical residency and cardiology fellowship at Emory University, and ending at Harvard. More than 10 primary journal articles and more than 45 abstracts were retracted as a result of the investigations. The Darsee case highlighted the problem of using so-called "gift authors" on papers. Gift authors have little or no contact with the person giving them the authorship, but the presence of the prestigious names may influence an editor to consider a paper for publication.
FALSIFICATION

Manipulating research material, equipment or processes or changing or omitting data or results such that the research is not accurately presented in the research record (http://ori.hhs.gov).
CDP-choline significantly restores phosphatidylcholine levels by differentially affecting phospholipase A2 and CTP: phosphocholine cytidylyltransferase after stroke.


This article has been retracted by the publisher.

An investigation by the Office of Research Integrity determined that falsified Western blots were included in Figs. 1B and 2A, and falsified quantification of Western blots was included in Figs. 1B, 2A, and 3A (https://federalregister.gov/a/2013-01454).
Group Activity: Role Play

List appropriate ways for curbing the incidence of scientific misconduct.

The three class groups discuss this issue by each playing one of the following roles:
Group 2: Mentor/Supervisor
Group 3: Student/Researchers
Group 4: Head of the Department
(5 + 5 minutes)
CONSEQUENCES OF SCIENTIFIC MISCONDUCT

1. Could mean the end to career as a researcher.
   - Grounds for dismissal of tenured faculty
   - Forfeiture of research grants.
   - Blacklisted (e.g. reputable research organizations and universities refuse to hire; funding sources refuse to sponsor research work, journals refuse to consider any articles for publication.)

2. Fabricators may have previously earned academic credentials taken away.

   e.g. in 2004, Jan Hendrik Schön was stripped of his doctorate degree by the University of Konstanz after a committee formed by Bell Labs found him guilty of fabrication related to research done during his employment there. [http://news.sciencemag.org/education/2011/09/jan-hendrik-sch%C3%B6n-loses-his-ph.d.](http://news.sciencemag.org/education/2011/09/jan-hendrik-sch%C3%B6n-loses-his-ph.d.)
SUMMATIVE ASSESSMENT

BEYOND THE USA DEFINITION OF **SCIENTIFIC MISCONDUCT**, WHAT OTHER ELEMENT THAT SHOULD BE INCLUDED CONSIDERING DIFFERENCES IN GEOPOLITICAL AND CULTURAL IN YOUR COUNTRY? DEFEND YOUR ANSWER
Q&A: 15 Minutes Session 😊