

EVERYONE PLAYS A ROLE IN RESEARCH INTEGRITY

A "PUBLISH OR PERISH" CASE STUDY

There are many reasons someone might engage in research misconduct — such as inadequate training and oversight, personal and professional stress, and fear of failure.

One potential driver of research misconduct is the pressure to "publish or perish." Let's look at how this is affecting Bob, a young scientist, and how his environment may be a contributing factor.

The U.S. Department of Health and Human Services (HHS) defines research misconduct as:

FABRICATION, FALSIFICATION, or PLAGIARISM in proposing, performing, or reviewing research, or in reporting research results.¹

Bob is falsifying data

Bob is working hard to publish his research. He is facing a tight deadline and his experiments are not yielding desirable results. He feels that the only way to meet his deadline is to falsify his data.

What leads him to commit research misconduct?

13

HHS makes about 13 findings of research misconduct a year.



PERSONAL LEVEL

Bob's lab is under pressure to publish

Dr. C, Bob's boss, places unreasonable demands on the lab team to produce publishable results. Dr. C is busy and rarely reviews the raw data. Without any oversight, Bob easily falsifies his data.

What can his lab supervisor do to reduce this pressure?

In 45 cases of research misconduct committed by trainees, 72% of supervisors had not reviewed the source data.²

72%



INTERPERSONAL LEVEL

The university rewards academic publications and grants

Dr. C needs more publications to earn tenure. Her department chair requires Dr. C to secure grant funding to maintain her lab. These pressures distract Dr. C from her mentoring responsibilities in the lab.

What can the university do to reward responsible research?



INSTITUTIONAL LEVEL

8%

Nature only publishes about 8% of papers submitted.³



The research community reinforces the pressure to "publish or perish"

Bob, Dr. C, and their institution are part of a broader research community. They all face the competitive pressures generated by their peers, funding sources, journals, and academic societies.

What can the research community do to change this norm?

RESEARCH COMMUNITY LEVEL

The pressures scientists face are perpetuated at every level.

What can you do to promote integrity from your place in this system?

Citations:

¹ For the full definition of research misconduct, see 42 C.F.R. § 93.103.

² Wright, D. E., Titus, S. L., Cornelison, J. B.. (2008). Mentoring and Research Misconduct: An Analysis of Research Mentoring in Closed ORI Cases. *Science and Engineering Ethics*, 14, 323-336.

³ Getting Published In Nature: The Editorial Process. (2016). Retrieved March 17, 2016 http://www.nature.com/nature/authors/get_published/



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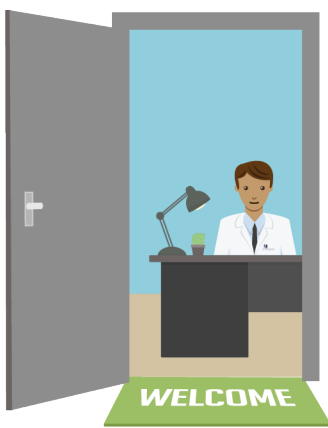
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WAYS SUPERVISORS CAN PROMOTE RESEARCH INTEGRITY

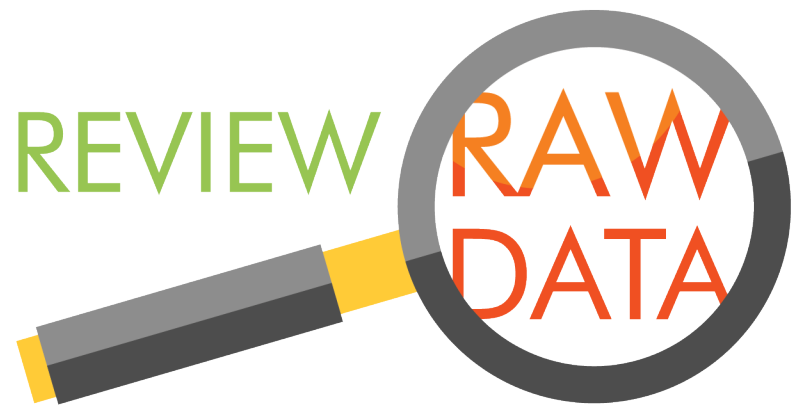
Are you a principal investigator, research coordinator, academic advisor, or mentor? Roles such as these place you in a unique position to cultivate exceptional research practices among the next generation of researchers.



1 BE AVAILABLE & APPROACHABLE



Your team wants to learn from YOU!



2 REVIEW RAW DATA

You are responsible for the integrity of your team's data.

3 COMMUNICATE EXPECTATIONS

Prevent misunderstandings by making sure everyone is on the same page.



4

Avoid making assumptions about anyone's skills or knowledge.



5

RESEARCH INTEGRITY OFFICER

Be prepared in case you ever suspect research misconduct.



Find out more:

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WRITE ETHICALLY

FROM START  TO FINISH

PREPARE



Secondary sources might have misinterpreted the work

HAVE A
THOROUGH UNDERSTANDING
OF YOUR SOURCES



Accurately communicate their ideas and terminology

WRITE



SELECTIVE REPORTING

Present unbiased information by acknowledging conflicting evidence and alternative interpretations

CITE YOUR SOURCES

DO NOT PLAGIARIZE

USE YOUR OWN WORDS AND SENTENCE STRUCTURE

&

MAINTAIN THE INTENDED MEANING OF THE SOURCE

OR

QUOTE VERBATIM TEXT

PUBLISH



Only include those who have made substantial contributions to a project

Give proper authorship or acknowledgment to those who have contributed to a paper

AVOID GHOST AUTHORSHIP



Learn more about ethical writing: ori.hhs.gov/ethical_writing

Roig, M. (n.d.). Avoiding plagiarism, self-plagiarism, and other questionable writing practices: A guide to ethical writing. Retrieved September 01, 2016, from https://ori.hhs.gov/ethical_writing



TIPS FOR AVOIDING PLAGIARISM

WHAT IS PLAGIARISM?

The appropriation of another person's ideas, processes, results, or words without giving appropriate credit.

1 Always acknowledge the contributions of others in your work

2 Identify the citation source when paraphrasing or summarizing

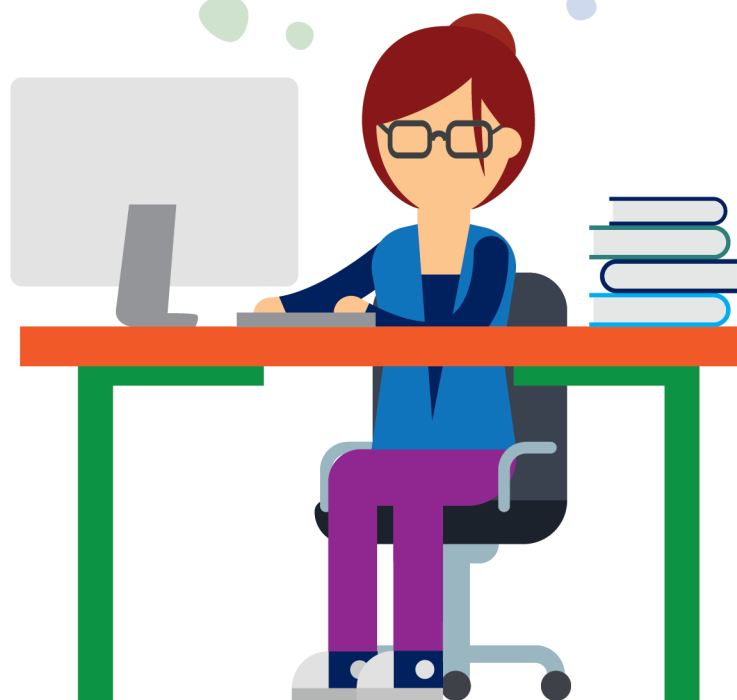
3 Provide a citation when in doubt about facts or common knowledge

4 Always enclose verbatim text in quotation marks with an accompanying citation

5 Cite primary sources of information not secondary or tertiary

"Don't plagiarize. Express your own thoughts in your own words.... Note, too, that simply changing a few words here and there, or changing the order of a few words in a sentence or paragraph, is still plagiarism. Plagiarism is one of the most serious crimes in academia."¹

"You paraphrase appropriately when you represent an idea in your own words more clearly and pointedly than the source does. But readers will think that you plagiarize if they can match your words and phrasing with those of your source."²



Adapted from *Avoiding Plagiarism, Self-Plagiarism, and Other Questionable Writing Practices: A Guide to Ethical Writing* by Miguel Roig.

View 28 Guidelines to Avoid Plagiarism: <https://ori.hhs.gov/plagiarism-0>

Citations:

¹ Pechnick, J. A. (2013). *A short guide to writing about biology*, 8th Edition. Boston: Pearson. Page 5.

² Booth, W. C., Colomb, G. G., & Williams, J. M. (2008). *The craft of research*. Chicago: The University of Chicago Press. Bright Tunes Music Corp. v. Harrisongs Music, Ltd. (1976). 420 F.Supp. 177 (S.D.N.Y). march_vol24_no1.pdf. Page 194.

