

Research Integrity: Best Practices

Research Integrity
Research Compliance
Data Handling



“The public will support science only if it can trust the scientists and institutions that conduct research.”

National Research Council and Institute of Medicine 2002

Best Practices: Research Integrity

- Maintain High Standards in Own Work
- Understand Policies
- Raise questions and problems promptly and professionally
- Strive to be a generous and collegial colleague

Best Practices: Research Compliance

- Protect Human Subjects and Laboratory Animals
- Follow Environmental and Other Safety Regulations
- Do not engage in misuse
- Disclose and manage conflicts of interest

Best Practices: Data Handling

- Develop data management and sharing plan at the outset of a project
- Incorporate appropriate data management expertise in the project team
- Understand and follow data collection, management and sharing standards, policies and regulations

Research Misconduct

- Fabrication
- Falsification
- Plagiarism

Detrimental Research Practices

- Include But Not Limited to:
 - Not Sharing Data or Code
 - Misleading Statistical Analysis
 - Misuse of Animal or Human Subjects
 - Sabotage

Consequences of FFP & DRP

- Direct costs
- Lost years of training/work
- Advance of knowledge is impaired
- Science as an institution is less effective/trusted
- Suspension or disbarment of individual or organization

Case Study Example

- Dutch psychologist Diederick Stapel was found to have falsified data in 30 peer-reviewed articles over a number of years. Often, Stapel and a colleague or student came up with a hypothesis, and then designed an experiment to test it. Stapel took responsibility for collecting data through what he said was a network of contacts at other institutions, and several weeks later produced a fictitious data file for his colleague to write up into a paper. On other occasions, Stapel received co-authorship after producing data he claimed to have collected previously that exactly matched the needs of a colleague working on a particular study. The data were also suspicious, the report says: effects were large; missing data and outliers were rare; and hypotheses were rarely refuted. Journals publishing Stapel's papers did not question the omission of details about where the data came from.

Small Group Discussion

- Review the case study for your group
- Identify potential FFP and DRP issues
- Discuss what you would do if you were involved in a similar situation (e.g., as a colleague, co-author, team member, student, peer reviewer, journal editor)
- Each small group will present to the full group a brief summary of the case study and what you would do in a similar situation

Resources

- OSU Ombuds Office: <http://oregonstate.edu/ombuds/>
- OSU Office of Research Integrity: <http://research.oregonstate.edu/ori>
- EthicsPoint: <https://secure.ethicspoint.com/domain/media/en/gui/41096/index.html>
- Reporting Animal Welfare Concerns at OSU: <http://research.oregonstate.edu/iacuc/reporting-animal-welfare-concerns-osu>
- US Dept. of Health & Human Services Office for Human Research Protections: <https://www.hhs.gov/ohrp/>
- Research Data Services: <https://guides.library.oregonstate.edu/research-data-services>
- Library Graduate & Faculty Workshops: <http://library.oregonstate.edu/graduate-students>
- Retraction Watch: <http://retractionwatch.com/>

Books

- National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. 2009. *On Being a Scientist: A Guide to Responsible Conduct in Research: Third Edition*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/12192> (Free PDF download)
- National Academies of Sciences, Engineering, and Medicine. 2017. *Fostering Integrity in Research*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/21896> (Free PDF download)
- Institute of Medicine and National Research Council. 2002. *Integrity in Scientific Research: Creating an Environment That Promotes Responsible Conduct*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/10430> (Free PDF download)
- Elliott, S. L., Fischer, B. A., & Grinnell, F. (Eds.). 2015. *Perspectives on research integrity*. <https://ebookcentral.proquest.com/lib/osu/detail.action?docID=3563367> (available through OSU Libraries)

Any Final Questions?

Laurel Kristick

Associate Professor, OSU Libraries and Press

Laurel.kristick@oregonstate.edu