Research Integrity and Policies for Handling Misconduct

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Why Teach Responsible Conduct of Research (RCR)?

- Public concern surfaced in the early 1980’s following reports of egregious misbehavior.
- One researcher republished under his own name dozens of articles previously published by others.
- Other researchers falsified or fabricated research results.
- It seemed as if research institutions ignored or deliberately covered up problems.
- Eventually, Congress stepped in and required Federal agencies and research institutions to develop research misconduct policies.
Research Misconduct Defined

- Research misconduct is defined as **FFP**
- **Fabrication**, **Falsification**, or **Plagiarism** in proposing, performing or reviewing research, or in reporting research results
- The data may be in laboratory notebooks, grant applications, progress reports to NIH, publications, patent applications or similar documents
Research Misconduct Defined

- **Fabrication** is making up results and reporting them
- **Falsification** is manipulating research materials, equipment, or processes, or changing or omitting data
- **Plagiarism** is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit, including those obtained through confidential review of others' research proposals and manuscripts
Research Misconduct Defined

- Research misconduct does not include honest error or honest differences of opinion
Plagiarism is the Most Common Research Misconduct

- 25 percent of the allegations received by the ORI in the last three years
- 60 percent of the allegations received by the National Science Foundation during the same period
How Common is Research Misconduct?

- Judged on the basis of the number of confirmed cases, misconduct apparently is not common in research.
- Over the last decade, PHS and NSF combined have averaged no more than 20 to 30 misconduct findings a year.
- Annual rate of misconduct in research at or below 1 case for every 10,000 researchers.
- Two important cautions:
Underreporting is Likely

- The number of confirmed cases is probably less than the number of actual cases.
- Underreporting is to be expected, as it is in cases of criminal and inappropriate behavior.
- Several studies have suggested that researchers do not report suspected misconduct.
Research Misconduct is a Minimal Standard

- The responsibility to avoid misconduct in research is a minimum standard for the responsible conduct of research
- The fact that most researchers do not engage in research misconduct does not necessarily imply that the level of integrity in research overall is high
NIH Requires Instruction in RCR

- Since July 1990, the NIH has required all applications for NRSA Training Grants (T32, T34) to provide instruction in RCR.
- This requirement was announced in the NIH Guide for Grants and Contracts in 1989 and again in 1990.
- It also applies to all Fellowships (F & K awards).
NSF Also Requires RCR Instruction

- The NSF requirement applies to all proposal to conduct research (not just training grants and fellowships)
- This requirement was established in 2010 and applies to all proposals submitted after January 4, 2010
II. Findings of Research Misconduct
A finding of research misconduct requires that:

- There be a significant departure from accepted practices of the scientific community for maintaining the integrity of the research record
- The action be committed intentionally, or knowingly, or in reckless disregard of accepted practices
- The allegation be proven by a preponderance of evidence
What does “intentionally” mean?

- Intentionally does not mean that the intent was to commit misconduct.
- Intentionally means that the intent was to perform the act.
  - For example, copying a paragraph without realizing it is plagiarism is still intentional.
- It makes no difference if the individual doesn’t realize that the action represents misconduct.
- Ignorance is not an excuse.
III. Responsibilities of Federal Agencies and Research Institutions

- Each agency has its own policies and procedures
- When more than one agency is involved, a lead agency is designated
- Agencies will usually direct allegations of research misconduct to the appropriate research institution
III. Responsibilities of Federal Agencies and Research Institutions

- Multiple phases of the investigation may include Inquiry, Investigation, Adjudication, and Appeal
- Separation of phases
- Institutional notification of the agency
- Agency follow-up to institutional action may include additional investigation
III. Responsibilities of Federal Agencies and Research Institutions

- Reasons to notify the agency immediately include if public health or safety is at risk, if agency resources or interests are threatened, if research activities should be suspended, or if there is reasonable indication of possible violations of law.
Policies Followed by NIH and NSF
Each organization has a separate office monitoring research integrity

- NIH
  - Office of Research Integrity (ORI)
  - http://ori.hhs.gov

- NSF
  - Office of the Inspector General (OIG)
1. Allegations Reported to an Institution

- An institution must complete an inquiry within 90 days. If there is insufficient basis for the allegation, the matter is closed. If there is substantive possibility that misconduct has occurred, the institution must notify NIH or NSF and begin an investigation.
2. Allegations Reported to NIH (ORI) or NSF (OIG)

- If the matter meets the definition of misconduct, the subject is notified. The subject’s response is critical in determining the course of action, which can end there or advance to an investigation.
3. Investigation

- Institutions are allowed 180 days to conduct investigations and report the findings
The investigation report must include:

- A description of the allegations
- A list of the individuals conducting the investigation
- The methods used to gather information
- A summary of the records compiled
- A statement of the findings with the reasoning supporting those conclusions
- A description and explanation of any actions recommended or imposed
4. Findings and Actions

- The institution will take action based on the results of the investigation.
- NIH or NSF may take appropriate action in addition to that taken by the institution.
Factors that are considered in taking action include:

- The severity of the misconduct
- The state of mind with which it was committed
- Whether it was an isolated event or part of a pattern
Case Example

Misrepresentation of Publications in Proposals Submitted to NSF
Allegation

- A university receives an allegation that a Principal Investigator has misrepresented the status of his manuscripts in a university publication
- Manuscripts were listed as submitted when they were not
Questions about the allegation

- What does “submitted” mean?
- Is this appropriate behavior?
- Does this represent scientific misconduct, or simply a mistake?
- Would it make a difference if the manuscripts were listed on university documents, other manuscripts, or grant applications?
The Facts

- He stated that he had submitted 3 manuscripts to scientific journals when they were only drafts or partial drafts.
- There were a total of 40 misrepresentations, of which 13 appeared in NSF proposals.
The Facts

- The misrepresentations appeared in proposals submitted to the university, NSF, another federal agency, and a private foundation.

- The misrepresentations also appeared in submitted curricula vitae, bibliographies, two institutional annual reviews, a departmental brochure, and a final report submitted to a state funding agency.
The Subject’s Response

- He had not intentionally tried to deceive anyone
- The misrepresentations were careless, administrative mistakes
- The false statements were made because proposal evaluations take so long, and he fully expected to submit the manuscripts within a short time
- This was common practice in the scientific community
Evaluation of the Response

- The subject had made false representations in several documents that did not have long lead times.
- It is not a common practice in the scientific community to present false information to federal agencies.
Institution’s Conclusions

- The subject’s actions did constitute scientific misconduct
- A letter of censure was placed in the subject’s personnel file
- The institution’s personnel committee’s intense pressure on the subject to publish papers and obtain funding motivated the actions
NSF’s Conclusions

- The subject had committed misconduct in science
- The presence of the misrepresentations in so many places, and over a period of 13 months, demonstrated a broad pattern of behavior
NSF’s Conclusions

- The subject willfully misrepresented the status of his manuscripts and successfully deceived reviewers, program managers, and institutional officials into thinking that he was more successful than he really was.
Adjudication by NSF

- For 3 years, any proposals the subject submits, or on which he is named as a co-PI, be accompanied by a certification to NSF that they contain nothing that violates NSF’s misconduct in science regulations
Adjudication by NSF

- For 3 years, the subject obtain and send to NSF his department chairperson’s assurances that, to the best of that person’s knowledge, the submission does not contain any false representations about the status of manuscripts
The Penalty Can be More Severe

- Current funding to the investigator can be withdrawn
- The investigator can be barred from applying for grants from the organization
- Both of these penalties can also be applied to the institution
Don’t Commit Scientific Misconduct

- Think about the implications of your actions
- If in doubt, check with the institutional officer
- If you think misconduct has been committed, report it
Cases (including names) appear on the NIH and NSF web sites

- NIH Case Summaries
  - https://ori.hhs.gov/case_summary

- NSF Oversight & Outreach