What Every Student Should Know About Research Misconduct

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RESEARCH INTEGRITY

Michigan State University has implemented a hotline and web reporting feature to help maintain adherence to ethical practices. The purpose of the hotline is to provide an anonymous method to report known or suspected misconduct. The hotline is for researchers, employees, and others to report issues related to research, safety, discrimination, harassment, confidential, or other areas. The hotline is available 24/7, and all reports are kept confidential.

Anonymous Allegations

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MISCONDUCT HOTLINE
Character is doing the right thing when nobody's looking. There are too many people who think that the only thing that's right is to get by, and the only thing that's wrong is to get caught.

(J. C. Watts)
A few recent research misconduct cases
Marc Hauser

- Studied cognitive evolution in primates
- Found guilty of 8 counts of research misconduct in 2010
- Harvard placed him on administrative leave, he later resigned
Dipak K Das

- Studied resveratrol
- Found guilty by UCONN of 145 instances of Research Misconduct
- Case began as an anonymous tip in 2008
Dong-Pyou Han

- HIV/AIDS researcher
- Added human HIV antibodies to rabbit blood
- The scam went on for years, the investigator resigned from IA State in Oct, 2013
- Sentenced to 57 months in prison
The Poehlman case: running away from the truth*

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†U.S. Department of Health & Human Services, Office of Research Integrity
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Keywords: scientific misconduct, failed experiment, criminal fraud, government review, inappropriate function

ABSTRACT: Eric T. Poehlman, Ph.D., was an internationally recognized, tenured professor at the University of Vermont (UVM) in Burlington when, in October 2006, a junior member of Poehlman’s laboratory became convinced that he had altered data from a study on aging volunteers from the Burlington area. This suspicion developed into one of the most significant cases of scientific misconduct in the history of the U.S. Department of Health and Human Services’ (DHHS) Office of Research Integrity (ORI), launching a US Department of Justice (DOJ) civil and criminal fraud investigation and, eventually, a much-publicized guilty plea and future conviction. In the end, Dr. Poehlman admitted to 14 findings of scientific misconduct made by the UVM and ORI, agreed to recant or correct any of his publications and to exile himself from federal procurement and nonprocurement business for life. The United States Government’s handling of this case was distinguished by a highly cooperative approach that integrated the resources of the US Attorney’s Office for the District of Vermont (DOJ) and both DOJ and the Office of the Inspector General (OIG) in 2006 as the summation goal of prosecuting research fraud.

* The views of this article represent the personal views of the authors and does not express the opinions or policy of DHHS or ORI.

A paper on this topic was presented at the 6th International Ethics Conference on the subject of “The Responsibilities of Basic and Clinical Research” held in Warsaw, Poland 2-4 June 2003.

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UPDATE: This press release refers to study results that are preliminary and have not been subjected to the peer review scientific process.

COLLEGE PARK, Md. — Fifth Quarter Fresh, a new, high-protein chocolate milk, helped high school football players improve their cognitive and motor function over the course of a season, even after experiencing concussions, a new preliminary University of Maryland study shows.

The study, funded through the Maryland Industrial Partnerships program and conducted by Jae Kun Shim, a professor of kinesiology in the School of Public Health, followed 474 football players from seven high schools in Western Maryland throughout the fall 2014 season.

"High school football players, regardless of concussions, who drank Fifth Quarter Fresh chocolate milk during the season, showed positive results overall," said Shim. "Athletes who drank the milk, compared to those who did not, scored higher after the season than before it started, specifically in the areas of verbal and visual memory."

Football players were tested before the season, after concussions and post-season injury. 

Fifth Quarter Fresh chocolate milk. 

Download high quality Fifth Quarter Fresh videos, photos and logos (including those shown below) via M.I.Tech's public Dropbox folder.
Why won't the University of Maryland talk about the chocolate milk/concussion study it was so eager to promote?

Lator's note: In response to concerns raised by HealthNewsReview.org in a news release review and the following story, the University of Maryland has announced it is conducting an investigation into the study at the center of this controversy.

On December 22, the University of Maryland published a remarkable press release about some research it had conducted. According to the release, a study conducted by a professor at the UMD School of Public Health had shown that a product called ‘Five Quarter Fresh’ — basically, a fancy, fortified chocolate milk — ‘helped high school football players improve their cognitive and motor function over the course of a season, even after experiencing concussions.’

Given the current focus on youth concussions, it’s no surprise that this news reached last year that researchers who have studied the company in question. Motivated by what appeared to be sturdy scientific evidence, the researchers were hoping to see the results of this study, which would have confirmed their hypothesis.
Wakefield’s article linking MMR vaccine and autism was fraudulent

Clear evidence of falsification of data should now close the door on this damaging vaccine scare.

“Science is at once the most questioning and . . . sceptical of activities and also the most trusting,” said Arnold Relman, former editor of the New England Journal of Medicine, in 1989. “It is intensely sceptical about the possibility of error, but totally trusting about the possibility of fraud.” Never has this been truer than of the 1998 Lancet paper that implied a link between the measles, mumps, and rubella (MMR) vaccine and a “new syndrome” of autism and bowel disease.

Authored by Andrew Wakefield and 12 others, the paper’s scientific limitations were clear when it appeared in 1998. As the ensuing vaccine scare took off, critics quickly pointed out that the paper was a small case series with no controls, linked three common conditions, and relied on parental recall and beliefs. Over the following decade, epidemiological studies consistently found no evidence of a link between the MMR vaccine and autism.

By the time the paper was finally retracted 12 years later, after forensic dissection at the General Medical Council’s (GMC) longest ever forensic to practise hearing, few people could deny that it was fatally flawed both scientifically and ethically. But it has taken the diligent scepticism of one man, standing outside medicine and science, to show that the paper was in fact an elaborate fraud.

In a series of articles starting this week, and seven years after first looking into the MMR scare, journalist Brian Deer now shows the extent of Wakefield’s fraud and how it was perpetrated. Drawing on interviews, documents, and data...
Office of Research Integrity
What the RIO does

- The RIO is responsible for seeing to it that the MSU Procedures Concerning Allegations of Misconduct in Research and Creative Activities are carried out in an unbiased, confidential, and professional manner.

- Required for any institution seeking and accepting federal funding (42 CFR 93)
PROCEDURES CONCERNING ALLEGATIONS OF MISCONDUCT IN RESEARCH AND CREATIVE ACTIVITIES

19 June 2009
The role of the RIO

- The RIO shall coordinate implementation of these Procedures and shall be responsible for their fair and impartial administration. The RIO shall not be an advocate for the Complainant or the Respondent.
Question

- Is the RIO the most thankless job at Michigan State University?
  - Yes
Question

- Is the RIO the most despised entity at Michigan State University?
  - No
So who is?
What exactly is “Research Misconduct”? 
Research Misconduct
(Michigan State)

Fabrication, Falsification, Plagiarism, or any other practice, that Seriously Deviates from practices commonly accepted in the discipline or in the academic and research communities generally in proposing, performing, reviewing, or reporting Research and Creative Activities. Misconduct does not include appropriative practices in the Creative Arts insofar as they accord with accepted standards in the relevant discipline. Misconduct does not include honest error or honest differences in the interpretation or judgment of Research data.
It doesn’t matter what I think, the evidence says everything

Mac Taylor, CSI New York
How does the process begin?
Misconduct Process

- Allegation
  - Complainant(s)
  - Respondent(s)

- Preliminary Assessment (by me)
  - Meet definition?
  - Any evidence?
My most important phrase
My most important phrase

- “it could be”
Misconduct Process

- Allegation
  - Complainant(s)
  - Respondent(s)

- Preliminary Assessment (by me)
- Inquiry Panel
- Investigative Committee

- Exoneration or Finding
Fabrication

- Fabrication is making up data or results and recording or reporting them.
Falsification

- Falsification is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.
Figure 1: Cases formally opened by ORI that involve questioned images.
Plagiarism

- Plagiarism is appropriation of another person's ideas, processes, results, or words without giving appropriate credit.
Pyramus and Thisbe, in classical mythology, youth and maiden of Babylon, whose parents opposed their marriage. Their homes adjoined, and they conversed through a crevice in the dividing wall. On a night when they had arranged to meet at the tomb of Ninus, Thisbe, who was the first at the trysting place, was frightened by a lion with jaws bloody from its prey. As she fled, she dropped her mantle, which was seized by the lion. When Pyramus came, the torn and bloody mantle convinced him that she had been slain. He killed himself, and Thisbe, returning, took her own life with his sword. The white fruit of a mulberry tree that stood at the trysting place was dyed red with Pyramus' blood, and the fruit was ever after the color of blood.
• Written by Ovid
• Between 5-3 BC
Does Pyramus and Thisbe remind you of anything?
Does Pyramus and Thisbe remind you of anything?

- William Shakespeare
- 1595
Does Pyramus and Thisbe remind you of anything?

- Arthur Laurents
- 1957
Accusations of plagiarism should be judged individually, taking into account the actual damage done to the original author and current copyright holder, and whether or not the alleged theft actually has any artistic merits in its own right.

- Feb 27, 2007
- thunderpeel2001.blogspot.com
- Posted by Johnny Walker
A judgment of plagiarism requires that the copying, besides being deceitful in the sense of misleading the intended readers, induces **reliance** by them. By this I mean that the reader does something because he thinks the plagiarizing work original that he would not have done had he known the truth.

- Richard A. Posner
- The Little Book of Plagiarism (Pantheon Books, NY), 2007
- Page 19
September 1, 2009

President Barack Obama
The White House
Washington, D.C. 20500

Dear Mr. President,

On behalf of the more than 30,000 members and certified professionals of the American College of Sports Medicine (ACSM), I am writing to thank you for highlighting the importance of covering chronic disease and preventive care like mammograms and colonoscopies, in your speech on Wednesday, Sept. 9, 2009, before a joint session of Congress.

However, we believe that prevention and wellness is much more than just clinical preventive services and should include initiatives that promote healthy lifestyles for people around the globe. In addition to improving the health of citizens worldwide, our “mammal model” has also proven that these services enhance productivity and job performance.

You may be interested to know that for more than 30 years ACSM has been emphasizing the importance of regular exercise to prevent illness and disease. The Exercise is Medicine™ program, launched in conjunction with the American Medical Association, is designed to encourage patients to incorporate physical activity into their daily routines. Exercise is Medicine™ specifically calls on doctors to encourage exercise to their patients, which is the kind of initiative that will help you achieve your goal of engendering a culture of health.

We thank you once again for your commitment to providing leadership on this topic, and we look forward to working with you to ensure that health initiatives relating to increased physical activity and better nutrition pay a much more prominent role in the future than they have in the past.

Sincerely,

James E. Pivarnik, FACSM
President
American College of Sports Medicine

cc:
Nancy-Ann DeParle, White House Office of Health Reform
Kathleen Sebelius, HHS Secretary
Standard of Determination for Research Misconduct

- There be a **significant departure** from accepted practices of the relevant research community; and
- The misconduct was committed **intentionally, knowingly, or recklessly**; and
- The allegation be proven by a **preponderance** of the evidence
"I tend not to believe people. People lie. The evidence doesn't lie."

Gil Grissom, CSI
Serious Deviation from Common Practice

- ?????????????????????????
Serious Deviation from Common Practice

- Stealing, destroying, or damaging the research property of others with the intent to alter the research record
- Listing someone’s name as an author on a publication, without his/her knowledge or permission
Serious Deviation from Common Practice

- Misrepresenting background information, including biographical data, citation of publications, or status of manuscripts

- Abuse of confidentiality: taking or releasing the ideas or data of others which were shared with the legitimate expectation of confidentiality, e.g., stealing ideas from others' grant proposals, award applications, or manuscripts for publication when one is a reviewer for granting agencies or journals
Question

- Do we deal with any other bad things?
- Sometimes
Research Integrity Matters
Research Integrity Council
grad.msu.edu
vprgs.msu.edu

Protection
Respect research participants

Honesty  Recognition  Confidentiality  Disclosure  Compliance  Protection  Collegiality  Communication
• “Unacceptable Research Practices” means practices that do not constitute Misconduct but that violate applicable laws, regulations, or other governmental requirements, or University rules or policies, of which the Respondent had received notice or of which the Respondent reasonably should have been aware, for proposing, performing, reviewing, or reporting Research or Creative Activities.
What about individuals who are always on the edge?
• “Questionable Research Practices” means practices that do not constitute Misconduct or Unacceptable Research Practices but that require attention because they could erode confidence in the integrity of Research or Creative Activities.
Research Integrity Matters
Research Integrity Council
grad.msu.edu
vprgs.msu.edu

Collegiality
Work well with others

Honesty  Recognition  Confidentiality  Disclosure  Compliance  Protection  Collegiality  Communication
Question

- What percentage of potential allegations coming to our office is associated with some sort of previous conflict between/among the parties involved?

- ~ 90%!!
What’s the Score?

- We average about 6-10 new cases per year
What’s the Score?

- Every case undergoes a Preliminary Assessment
  - Approximately 1/3 cases end there
- Of the 2/3 of cases that move on,
  - 1/3 end with an Inquiry
  - 2/3 move on to a full Investigation
Causes of research misconduct?
(Davis et al, 2007)

- Individual
- Situational
- Organizational
- Structural
- Cultural
Recent Cases

- Hypothetical, of course
Recent Cases

- Falsification/fabrication of data by a student
  - Complainant was faculty, and students

- Lab supervision could have been better
Recent Cases

- Plagiarism in a dissertation by a student
  - Complainant was external to MSU

- Dissertation committee may not have provided proper oversight
Recent Cases

- Serious Deviation and Plagiarism by a student
  - Complainants were faculty members

- Possible prior acts by Respondent drove the Allegation
Recent Cases

- Plagiarism by a faculty member
  - Complainant was a student

- Case complicated by “agreements” made among administrators, faculty member, and student, that are not clearly understood by all parties
Recent Cases

- Unacceptable Research Practices by faculty member
  - Complainant was a student

- Graduate Dean helped student secure another lab for doing the right thing
You can report anonymously

Misconduct Hotline

IT'S YOUR CALL
You can report anonymously

Submit a Report

Online Hotline
Visits to the reporting website are not tracked. You can choose to provide your name or remain anonymous.

Submit a report online »

Phone Hotline
Anonymous calls can be made 24 hours a day, seven days a week.
Dial (800) 763-0764
IF YOU SEE SOMETHING, SAY SOMETHING
Thank you...Any Questions?