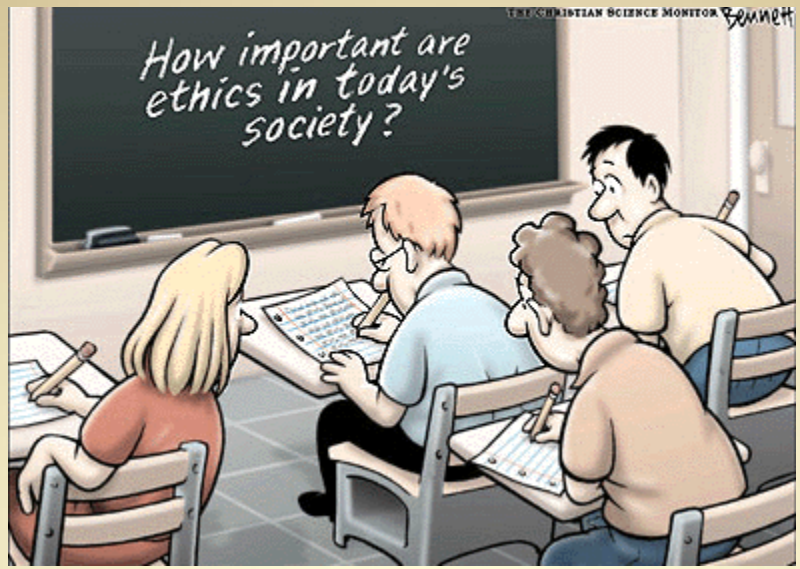


Ethics in Research

Ethics

- **Ethics – the discipline concerned with what is morally good and bad, right and wrong**

ethics. (2007). In *Encyclopædia Britannica.* Retrieved October 6, 2007, from Encyclopædia Britannica Online: http://www.britannica.com/eb/article-9106054

Definition of Scientific Misconduct

Scientific misconduct is fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results.
(*Federal Register,* October, 1999*)*

Codes and Guidelines

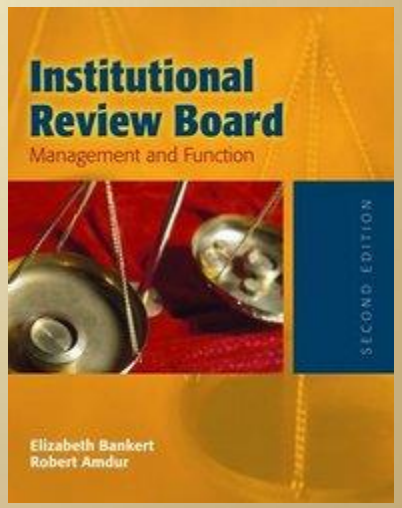
- 1974 – US Congress formed the National Commission for the Protection of Human Subjects in Biomedical and Behavioral Research
- 1979 – Belmont Report was published as a result of the commissions deliberations
- International codes also exist, for example the Code of Nuremberg (1949) and Declaration of Helsinki (1974)
- Virtually every journal has a policy statement regarding obtaining informed consent, etc.

Codes and Guidelines, cont'd

- Codes and guidelines evolved because of human subjects' rights abuses
  - Nazi experiments using war chemicals, environmental extremes, food and sleep deprivation, etc
  - Alaskan Eskimos fed radioactive iodine pellets
  - Tuskegee Alabama study where men with syphilis were "treated" with a placebo instead of a drug
    - http://en.wikipedia.org/wiki/Tuskegee_syphilis_experiment

Institutional Review Board (IRB)

- IRB is a panel of research experts that pass judgment on the quality and safety of studies before they can be conducted
- Primarily responsible for protecting the rights of subjects
- Also protect researchers and institution

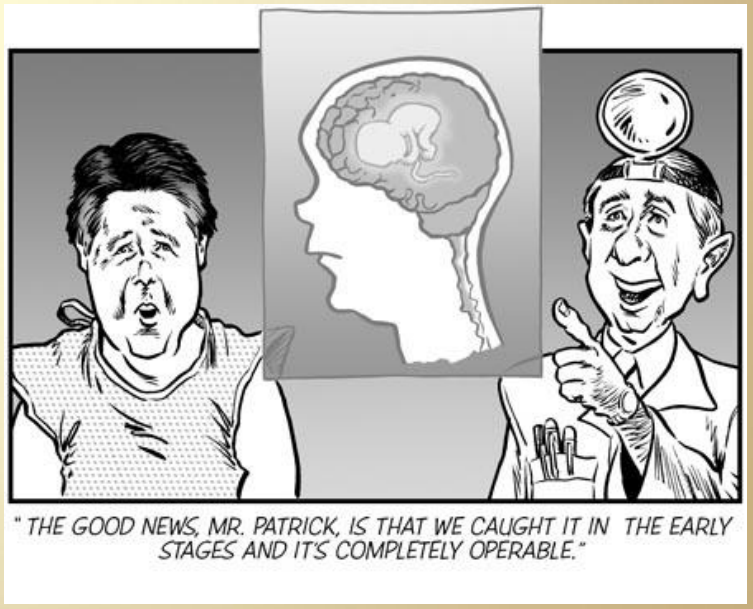


Statement of Informed Consent

- Provides potential subject with information to make a sound decision about participating in a study
- Provides simple but comprehensive info about the study
- Cal State Fullerton guidelines may be found here: http://www.ogc.fullerton.edu/IRB/irb.htm

Statement of Informed Consent, cont'd

- Elements of Informed Consent Document:
  - Background and invitation to participate
  - Explanation of procedures
  - Potential risks and discomforts
  - Potential benefits
  - Rights of inquiry and withdrawal
  - Signature of subject



Statement of Informed Consent, cont'd

- Other components sometimes included in the informed consent document:
  - Confidentiality and anonymity
  - Invasion of privacy
  - Safe and competent treatment
  - Knowledge of results

Seven Areas of Scientific Dishonesty

1. Plagiarism
2. Fabrication and falsification
3. Nonpublication of data
4. Faulty data-gathering procedures
5. Poor data storage and retention
6. Misleading authorship
7. Sneaky publication practices

Plagiarism

- Plagiarism—using the ideas, writings, and drawings of others as your own

Fabrication and Falsification

- Fabrication and falsification—making up or altering data
  - Prominent Cases in Kinesiology-related Research
    - Eric Poehlman – exercise physiologist at University of Vermont and University of Montreal
    - http://en.wikipedia.org/wiki/Eric_Poehlman

Researcher Faces Prison for Fraud in NIH Grant Applications and Papers

Science 25 March 2005: Vol. 307. no. 5717, p. 1851

A researcher formerly at the University of Vermont College of Medicine has admitted in court documents to falsifying data in 15 federal grant applications and numerous published articles.

Eric Poehlman, an expert on menopause, aging, and metabolism, faces up to 5 years in jail and a $250,000 fine and has been barred for life from receiving any U.S. research funding.

The number and scope of falsifications discovered, along with the stature of the investigator, are quite remarkable. "This is probably one of the biggest misconduct cases ever,"

Poehlman, 49, first came under suspicion in 2000 when Walter DeNino, then a 24-year-old research assistant, found inconsistencies in spreadsheets used in a longitudinal study on aging.

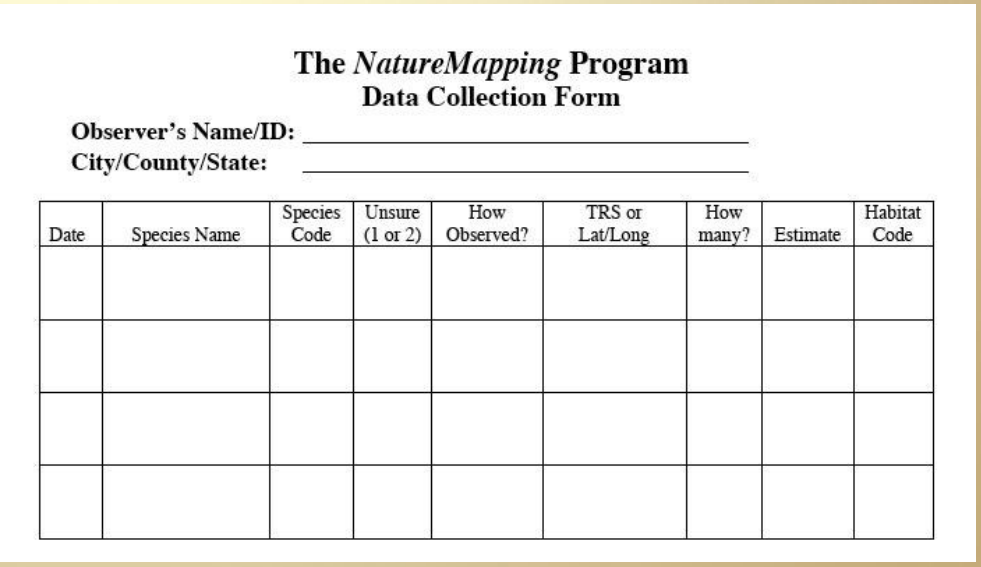
In an effort to portray worsening health in the subjects, DeNino tells *Science*, "Dr. Poehlman would just switch the data points."

Nonpublication of Data

- Sometimes called “cooking data”
- Data not included in results because they don’t support the desired outcome
- Some data are “bad” data
- Bad data should be recognized while it is being collected or analyzed
- Outlier – unrepresentative score; a score that lies outside of the normal scores
- How should outliers be handled?

Faulty Data Gathering

- Collecting data from participants who are not complying with requirements of the study
- Using faulty equipment
- Treating participants inappropriately
- Recording data incorrectly



The *NatureMapping* Program
Data Collection Form

Observer's Name/ID: _____
City/County/State: _____

Date	Species Name	Species Code	Unsure (1 or 2)	How Observed?	TRS or Lat/Long	How many?	Estimate	Habitat Code

Data Gathering

- Most important and most aggravating.
- Always drop non-compliers.
- Fix broken equipment.
- Treat subjects with respect and dignity.
- Record data accurately.
- Store data in a safe and private place for 3 years.

Poor Data Storage and Retention

- Data should be stored in its original collected form for at least 3 years after publication
- Data should be available for examination
- Confidentiality of participants should be maintained

Misleading Authorship

Misleading authorship—who should be an author?

- Technicians do not necessarily become joint authors.
- Authorship should involve only those who contribute directly.
- Discuss authorship before the project!

MSSE Information for Authors

- Medicine & Science in Sports & Exercise®
- Authorship Requirements
  To be an author, each individual shall have contributed to the manuscript in at least two (2) of the following areas:
  - Significant manuscript writer
  - Significant manuscript reviewer/reviser
  - Concept and design
  - Data acquisition
  - Data analysis and interpretation
  - Statistical expertise
- Manuscripts with more than six (6) authors require justification for exceeding that number

More info can be found here: http://www.icmje.org/

Sneaky Publication Practices

- Publication of the thesis or dissertation
  - Should be regarded as the student's work
  - Committee chair and members may be listed as secondary authors
- Dual publication – a manuscript should only be published in a single journal
  - What about studies which include a huge amount of data?

Sanctions

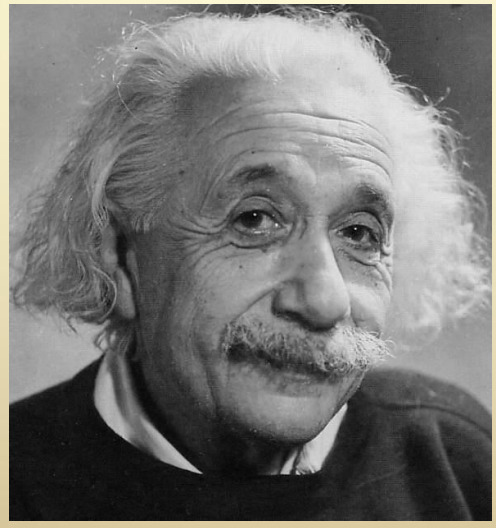
- Freeze your job.
- Reduce your job.
- Lose your job.
- Loss of institution money and privileges.
- Faculty are responsible for students.

Why do it?

- Obtain external funding.
- Pressure of the job.
- Need to complete graduate work.
- Obtain rewards of the field.
- Adams "This can only end in trauma"

Working With Faculty

- Expect to be treated with respect but not equally.
- Expect to work hard and do menial jobs.
- Choose a professor who shares like interests.
- Personality conflicts do occur.
- Ultimately you are in charge of your future.



Case Example - Pat J. Palmer

Fabricated 6 interview records

Fabricated claim of Ph.D. (B.S. and M.S. also)

Falsified that she was co-author on 10 articles