

Research Ethics

Types of ethics

- The relationship between society and science
- Professional issues
- Treatment of research participants

The relationship between society and science

- In theory, research is supposed to be objective and unbiased.
- But it never can really be so.

Why research is not unbiased

- The scientist is never totally objective
- The society determines what issues get investigated
 - government funding priorities partially dictate what type of research gets conducted
 - government funding priorities encourage researchers to orient to better-funded topics
- Societal & cultural values influence scientists' interests

Professional issues: Scientific misconduct

- Most serious crime: fraudulent or false data

But there are also less serious, but still unacceptable practices that are beginning to get attention

Authorship issues

- Honorary authors - listing people who have contributed nothing substantive
 - Dilutes credit due the people who actually did the work
 - Inflates the credentials of those so " honored"
 - Makes proper attribution of credit more difficult
- But what should authorship be?

- Author listings establish accountability as well as credit.
 - Authors whose names appear on a paper must share responsibility for all of it.
 - This means they must be involved enough to be able to be responsible.

Establishing authorship isn't easy

- 1967 discovery of pulsars by graduate student Jocelyn Bell
- Bell was in charge of operating radiotelescope for thesis advisor Anthony Hewish and analyzing its data
- Bell noticed "a bit of scruff" on the data chart.
- She remembered seeing the same signal earlier and determined that it had to be coming from an extraterrestrial source.
- Together Bell and Hewish analyzed the signal and found similar examples elsewhere.

Authorship, cont.

- Hewish, Bell, and 3 others published a paper announcing the discovery, and Hewish was awarded the Nobel Prize for the discovery.
- Many argued that Bell should have shared the Prize
 - Her recognition of the signal was the crucial act of discovery.
- Others said not.
 - This is what a graduate student is expected to do in a project conceived and set up by others.

Example 1

- Manuscript reviewers require complete re-analysis of data for publication.
- On original manuscript
 - First author was a student, Joe, who had gathered data and made the analysis.
 - Second author was faculty member who designed the method of analysis, supervised Joe, and wrote manuscript.
- For revisions
 - Another student, Sally, re-analyzed the data.
 - Mary revised paper.
 - Joe had graduated and left university, and thus could not participate further.

Example 1, cont.

What, if any, changes can or should (as a matter of fairness) be made in the author list in the revised manuscript?

Example 2

- Student completes MA thesis.
 - Idea for the thesis was provided to the student
 - Substantial guidance in design, analysis, and writing is given to the student.
- Student indicates no interest in writing up the final paper & goes on leave.
- Project is given to another member of the advisor's research group, who re-analyzes data, adds to literature and review, and wrote the drafts, on which the advisor collaborated.

Example 2, cont.

- Who should be the first author?
 - Advisor believes that the primary contributions are the advisor's and the new contributor's, and the paper would never have been published if it were left to the first student.
 - The student believes that he should be 1st author because of all of the work that was done initially.

Other forms of misconduct

- Assigning subjects nonrandomly when the design calls for random assignment
- Financial conflict of interest
 - Some scientific breakthroughs may have commercial applications that could allow the scientist to reap financial awards. This can tempt people to be less than ethical...

Publishing misconduct

- Partial publication (piecemeal publication)
 - Collecting data for one study and then publishing several articles on this one large data set rather than publishing all the findings in one paper
- Duplicate publication – publishing the same data and results in more than one publication
 - Some science journals or books serve a different audience – is it wrong to report the same results in these types of places?

Archived data

- In many studies, you videotape or audiotape people.
- They gave their consent for that taping for a particular purpose only.
- But the tapes may contain data that provide an answer to another investigator's research question.
- Is it ethical to use this archived data to investigate a new research question like this?

Types of ethics

- The relationship between society and science
 - Researchers can't be completely objective
- Professional issues
 - Fraudulent data
 - Authorship issues
 - Publication issues
 - Archived data
- Treatment of research participants

Treatment of research participants

- Many experiments designed to examine psychological or medical issues may subject participants to pain, or humiliation, or embarrassment.
- When does the potential gain in knowledge outweigh the cost to the research participant?

Iowa “Monster” Study

- Mary Tudor’s and Wendell Johnson 1939
- Investigated the idea that environmental feedback could cause a normally speaking child to stutter
- Four groups of participants:
 - Those who already stuttered vs. those who did not
 - Control group vs. experimental group

Iowa “Monster” Study, cont.

- Children in the experimental groups were labeled stutterers and received intense negative feedback for any disfluency.
- These children changed their speech behavior
 - became reluctant to speak
 - spoke more slowly
 - became shy and embarrassed
 - accepted the fact that there was something wrong with their speech

APA code of ethics

- Responsibility for ethical acceptability always rests with the investigator
- Basic concern is the degree of risk.
 - Studies that involve deception, stress, drugs – pose a threat to the welfare and dignity of the participant.
- Investigator has to inform the participants of their obligations & responsibilities, and about all aspects of research that might influence willingness to participate, so they can make an informed decision about whether to participate or not.

Informed consent

- Even if a therapy that HELPS the person – you need to have their consent to do it, and they need to know about alternatives.
 - Often, if you want to test a new therapy, there may already be other possible therapies that exist.
 - The person needs to be told about all their options, even if this makes it less likely they'd agree to do your experimental one.

Informed consent with kids

- Children cannot give informed consent.
 - Generally, obtain informed consent from parent/guardian
 - But also obtain consent from child when possible.

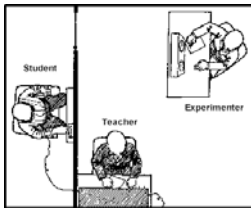
Concealment or deception

- The investigator must
 - Determine whether there are any alternatives
 - Determine whether the risk is justified
 - Ensure that participants are provided with an explanation as soon as possible

Deception may be more acceptable if:

- The research can't be achieved otherwise
- On being fully informed later, participants are expected to find the procedures reasonable and to suffer no loss of confidence in the investigator's integrity.
- Participants are allowed to withdraw at any time, and are free to withdraw when the concealment or misrepresentation is revealed.
- Investigator takes full responsibility for detecting & removing stressful after-effects of the experience.

Example: Milgram study



- Teacher is supposed to give electric shock to learner any time learner makes a mistake.
- Level of shock increases to very high levels.
- Most people continue to remain obedient to the experimenter.

How much disclosure?

- Even when there isn't deception, how much should the person be told?
- Is it legitimate to conceal purposes?

More ethics requirements

- Subjects must know all risks and benefits.
- Subjects must be debriefed as to full details.
 - If there was deception, or misconception, researcher must explain why and must ensure no damaging consequences.
- Information about participants is confidential.

More ethics requirements

- If there are beneficial treatments, control groups must be provided access to them.
 - For short treatments, it is legitimate to have one group of patients receive the treatment, and a control group not (and then get it later). This allows you to determine whether the treatment works.
 - But for lengthy treatment, is it right to withhold treatment from people who need it?
 - If not, how can you determine whether a treatment works?

Coercion

- It is unacceptable to coerce a person to participate.
 - They must be able to withdraw at any time.
 - Also, there must be no undue influence.
- Do people feel like they can opt out?
 - Is extra credit coercive?
 - What if it is for a class, and the investigator is their lecturer?
 - Is payment for participating coercive?

Subject pools

- Students must be informed of participation requirement before registration.
- Students must be given detailed description of requirement on first day of class.
- Alternate opportunities must be provided.
 - These must be commensurate in time and effort
- Participants must receive some sort of reward for participation – at minimum, a full explanation of the purposes of the study.

Research over the internet

- Presumably less risk of physical harm, but what of psychological harm?
- Are survey responses over the internet as “confidential”? (How secure?)
 - Can they be identified?
 - What if the email gets sent to the wrong place?
 - Can the data on the internet be accessed by outsiders?
- If an internet user has a pseudonym or “online persona” they’ve developed, is that pseudonym guaranteed the same kind of confidentiality protection?
