Ethics in Cog Sci Research

Research Methods in Cognitive Science (COGS 14A)
Lecture #7

Rose Hendricks
Prior to midterm, the professor informs the class that a copy of the exam has mysteriously disappeared from her office. She says that if the guilty party does not come forward, all 100 students will receive a 0. Due to your university’s strict honor code, the dean will certainly expel the person who stole the exam. You know it was your best friend who took it.

What would you do? Would your action depend on which friend it was who took the exam and what that person’s circumstances were?
Ethics

- The application of moral principles concerning what an individual considers right and wrong
- No definite right or wrong answer
Ethics

• **Utilitarian perspective**: do the greatest good for the greatest number of people (turn in friend)
Ethics

• Utilitarian perspective: do the greatest good for the greatest number of people

• **Altruistic perspective**: helping w/o personal benefit (selfless could be taking the 0 or sacrificing the friendship, depending on how you see it)
Ethics

- Utilitarian perspective: do the greatest good for the greatest number of people
- Altruistic perspective: helping w/o personal benefit
- **Egoism**: individuals should act in accordance with self interests (turn in friend)
Ethics

- Utilitarian perspective: do the greatest good for the greatest number of people
- Altruistic perspective: helping w/o personal benefit
- Egoism: individuals should act in accordance with self interests
- Scientists may hold different positions on ethical issues as well → science has established a set of ethical principles to guide decisions
Why do we need ethics guidelines?

Tuskegee Syphilis Experiment
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Tuskegee Syphilis Experiment

• Longitudinal study of ~600 African American sharecroppers; 339 had syphilis

• The study started in 1932
  • ppts received basic medical care

• From 1945-47, penicillin became a standard cure for syphilis
  • it was withheld from these participants to examine the full progression of the disease

• Did not stop until 1972
Why do we need ethics guidelines?

**Milgram Obedience Experiments** - 1963
Why do we need ethics guidelines?

**Milgram Obedience Experiments** - 1963

- Participants played the role of “teacher”
  - When the learner (actually a *confederate* – part of the study) made a mistake on a task, the teacher was supposed to give an electric shock (increasing each time)
  - If teachers protested, they were told to continue
- 25/40 continued to give shocks through the final 450 volt shock
Why do we need ethics guidelines?

Milgram Obedience Experiments - 1963

- The learner was not actually receiving shocks, but the participant did not know this
  - Deception was critical
Belmont Report: Ethical Regulations

• 1979

• Focused on research involving human subjects:
  • Respect
  • Beneficence
  • Justice
Respect for persons

• All participation must be voluntary
  • And free of coercion (making people feel like it’s not really voluntary)
  • In an academic setting, there must be alternatives
  • Pay cannot be too great

• Participants need enough information to be able to make an informed consent

• Can stop experiment at any time
Respect for persons

- Maintain individual rights, including privacy and confidentiality
  - If for some reason the study cannot uphold this, participants need to be informed in advance
- Participants who can’t make decisions for themselves (like children or psychiatric patients) must be protected by a responsible party
Respect for persons

Avoid *deception* because it conflicts with the principle of informed consent

- Never use deception to convince someone to participate
- When deception is used, it must be justified by the nature of the experiment and explained clearly afterwards (*debriefing*)
Beneficence

Humans should not be harmed

- Benefits to society should greatly outweigh any personal risks to participants*
- Risk or discomfort should be comparable to what is experienced in ordinary life
- Mitigate risks as much as possible

*Subjective – requires individuals to interpret
Beneficence: Harm

- No physical harm
  - During the 1940s, the US govt was concerned about the impact venereal diseases had on troops, so they oversaw studies in Guatemala that involved purposefully infecting people, sometimes without their knowledge.
  - Even seemingly harmless studies, like disrupting sleep cycles, can increase risk of physical harm → must be mindful.
Beneficence: Harm

- No physical harm

- No psychological harm: emotional suffering or mental distress such as concern, worry, and decreased self-esteem
  - Like Milgram obedience studies
Beneficence: Harm

When we consider the costs of conducting research, we also need to weigh the cost of *not* doing the research.

- For example, it’s important to know how stress, fear, etc. work in order to find ways to minimize these things...
- but that means that researchers will have to induce stress, fear, etc. in studies...
Justice

- Participants need to be selected fairly
  - Avoid targeting vulnerable groups when possible (includes prisoners, psychiatric patients)

- Risks and benefits should apply equally to all participants
Justice

- Participants need to be selected fairly

- Risks and benefits should apply equally to all participants (equal distribution of costs and benefits)
  - Ex: If during a study, it becomes clear that treatment works better than control, the researcher should end the study and make the treatment available to all
Update notes
Think, Pair, Share

What Belmont guidelines were violated by:

- The Tuskeegee Syphilis Study
- The Milgram Experiments

Explain how each study violated different guidelines
A researcher wants to determine how much of a person’s casual conversation is composed of slang and figurative expressions. The researcher plans to record conversations at restaurants without the participants’ knowledge. The participants would all be strangers to the researcher, the conversations would be coded for slang and figurative expressions only, and then the tapes would be destroyed. The participants will never know they’ve been part of the study.

What ethical principle is most in danger of being violated?

What alternative procedures might you suggest?
Institutional Review Board (IRB)

Reviews proposals for research with human participants to help researchers ensure the safety and well-being of participants

- IRB boards aim to include diverse perspectives
- Must have at least 5 members; mixed gender; at least one scientist, one non-scientist, one community member
- All research that is federally funded must be approved
IRB Application

- Detailed research proposal
  - Describe purpose
  - Procedures
  - Risks to participants
- Informed consent form that participants will receive when they participate
Protecting Animal Research Subjects

- Institutional Animal Care and Use Committee (IACUC) is similar to the IRB.
- Goal: minimize animal pain and distress; suggest alternative protocols when possible.
- Includes on-site inspections.
Integrity & Misconduct

• **Scientific Integrity**: Commitment to intellectual honesty and adherence to ethical principles in scientific research

• **Scientific Misconduct**: violation of regulatory or scholarly codes of ethical behavior in scientific research.
Scientific Misconduct

Includes:

- Falsifying data
- Manipulating data
- Excluding data that do not support hypotheses
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- Plagiarizing without credit
Scientific Misconduct

Includes:

• Falsifying data
• Manipulating data
• Excluding data that do not support hypotheses
• Plagiarizing without credit
• Including or excluding authors on a paper in a way that is not consistent with their contributions
Consequences of misconduct

- The public loses trust in science
- Other researchers may waste time and resources trying to replicate and extend work
- Researcher loses his/her job and licenses
- Collaborators’ reputations may be damaged and their work invalidated
Egregious Misconduct

Andrew Wakefield:
Egregious Misconduct

Andrew Wakefield: a British physician who published a paper suggesting there was a link between the measles, mumps, and rubella (MMR) vaccine and autism (1998)

- Wakefield falsified data and was receiving funding by a lawyer suing MMR manufacturers (undisclosed conflict of interest!)
Egregious Misconduct

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- Wakefield falsified data and was receiving funding by a lawyer suing MMR manufacturers (undisclosed conflict of interest!)
- Paper was retracted, Wakefield lost his license
- BUT it ignited fear of vaccines ➔ ongoing problem
Why would someone engage in misconduct?

- Desire to confirm beliefs
- Pressure to succeed
  - “Publish or perish”: to succeed in research, you must publish papers
  - **Publication bias**: Journals generally only want to publish exciting work, research that rejects null
Publication Bias

• Journals are businesses too, so they want to publish findings that will interest their audience → null findings rarely fit that bill

• File drawer problem
Publication Bias

- Journals are businesses too, so they want to publish findings that will interest their audience → null findings rarely fit that bill

- **File drawer problem**: studies that fail to reject the null are often discarded and never published
  - This can be a big problem. Imagine 10 people study the effect of eating chocolate right before bed on sleeping habits. They use the same design and feature. 9 researchers find no effect, 1 researcher finds an effect
  - What gets published? As a result, what might people believe?
  - This can unintentionally mislead the field and the public
Publication Bias

Efforts to improve

- Design studies that will be informative no matter how the data turn out

- **Preregister** studies: send a proposal of the exact research to be done, motivation, and what analyses will be conducted to a journal *before the research is conducted*
  - Can accept work based on merit before knowing results
Think, Pair, Share

Evaluate whether these seem ethical, or what missing details would make it clearer whether they abide by the ethical principles of respect for persons, beneficence, and justice:

A researcher instructs one participant to say insulting things to another participant as this other participant tries to complete a task.
Think, Pair, Share

Evaluate whether these seem ethical, or what missing details would make it clearer whether they abide by the ethical principles of respect for persons, beneficence, and justice:

With parents’ permission but without children’s awareness, a researcher videotapes 4-year-old children playing together.
Think, Pair, Share

Evaluate whether these seem ethical, or what missing details would make it clearer whether they abide by the ethical principles of respect for persons, beneficence, and justice:

A researcher exposes college students to a sexually explicit video for 10 minutes and measures their physiological arousal in response to the video.
Learning Outcomes

By the end of this lecture, students will be able to:

• Describe at least one historical study that demonstrated the need for strict ethical regulations in human research.

• Define: respect for persons, beneficence, and justice, in the context of the Belmont Report’s standards for human research

• Identify ethical violations in research designs. Describe which principle a flawed design violates and improve the design.

• List examples of scientific misconduct