The Ethical Treatment of Research Participants

Kant's Imperative

Act as to treat humanity, either yourself or others, always as an end also and never as a means only

Three Areas of Ethical Guidelines

- Relationship between society and science
  - Extent to which societal concerns and cultural values should direct course of scientific investigation
- Professional issues
  - Issues involving scientific misconduct
  - Competence, accuracy, honesty (public reports)
- Treatment of research participants
  - Welfare and dignity

Misconduct versus Fraud

- **Scientific misconduct**
  - **Includes fraud, plagiarism, poor record-keeping**
- **Research fraud**
  - **Fake data, false reports**

History of Ethics in Psychology

- Previous view: Researchers protected participants' well being
- Ethics and the American Psychological Association
  - First Code of Ethics for Psychologists: 1952
  - First Guidelines for Research Ethics: 1971

Nuremburg Code

- Participants should voluntarily consent to participate in research.
- Experiment should yield fruitful results for good of society
- Experiment should be based on animal experimentation – anticipated results will justify the performance of the experiment
- Participants should be fully informed of the nature of the research project.
- Avoid all unnecessary physical and mental suffering and injury

Nuremburg Code cont.

- Risks should be avoided whenever possible.
- Risk, where necessary, should not exceed that determined by humanitarian importance of study
- Proper preparation and adequate facilities
- Experiments should be conducted by scientifically qualified personnel.
- Experimenter must be prepared to terminate exp. at any stage
- Participants have the right to discontinue participation at any time.

"Classic" Controversial Studies

- Watson – Little Albert (1920)
- Tuskegee syphilis experiment (1932–1972)
- Willowbrook (1955 –1970)
- Milgram (1963)
- Walster – SE and romantic liking (1965)
- Stanford Prison Study (1973)
- Humphreys (1975) Tea Room Trade; Study of men's anonymous sex with men

Watson and Little Albert

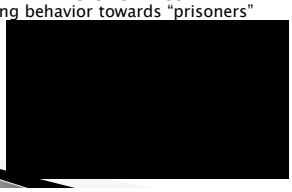
- John B. Watson & Rosalie Rayner (1920)
- conditioned anxiety response to a white rat
- conducted 33 years before development of ethical research guidelines

- Mary Cover Jones – systematic desensitization

Willowbrook

Haney, Banks & Zimbardo (1973)

- Continued monitoring of patient well-being
  - Obligation to anticipate and remove any harmful elements
  - E.g., Male undergraduates played roles of prisoners and guards
    - Within days "prisoners" were depressed and helpless and "guards" were engaging in aggressive, dehumanizing behavior towards "prisoners"



Milgram Experiment

- Stanley Milgram grew up during WWII
- Experiment designed to pit the participant's moral beliefs against the demands of authority
- Milgram's experiment began in a lecture on obedience to authority
- Audience members asked to privately record how they would have acted
- All audience members respond similarly
  - Would disobey
  - Psychologists at 120 volts
  - University students at 135 volts

Milgram experiments cont.

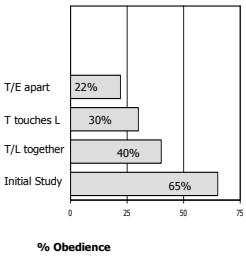
- Psychologists predicted only 4% would progress beyond 300 volts
- Students said .1% would reach highest level on generator
  - "pathological sadists"

Milgram Experiments cont.

- Milgram actually conducted study
- 65% of participants administered shocks up to 450 volts
- Participants rated electric shocks as 14 on a scale of 1 to 14 (where 14 is the most painful)
- Wouldn't happen today?

Milgram Experiments cont.

- Several follow up studies
- Teacher and learner seated together
- Teacher holds learner's hand down on shock plate
- Experimenter communicated to teacher via telephone



Milgram Experiments cont.

- 1962 – APA put Milgram's membership application on hold
- 1963 – First published criticism by a newspaper
- 1970s – US government enacted formal guidelines for research with human participants
- The APA adopted and published the original code of ethics in 1973; it was revised in 1982, and again in 2002.

APA Principles in the Conduct of Research with Humans

1. No Harm
2. Privacy and confidentiality
3. Institutional approval
4. Competence
5. Record keeping
6. Informed consent
7. Dispensing with consent
8. Inducements for research participation
9. Deception
10. Debriefing

General Ethical Principles (Belmont)

- Respect for persons: Protecting people's privacy and freedom to choose whether to participate in research
- Reflected in guidelines for
  - voluntary participation
  - informed consent
  - freedom to withdraw
  - confidentiality of data

General Ethical Principles (Belmont)

- Beneficence: Protecting research participants from harm
- Reflected in guidelines for
  - risk-benefit analysis
  - avoidance of harm
  - confidentiality of data

General Ethical Principles (Belmont)

- Justice: Ensuring that the burdens of research participation and the benefits of research are shared by all members of society
  - Burden should not fall unduly on certain groups
  - No particular group should accrue benefits
- Justice reflected in guidelines for
  - voluntary participation
  - informed consent

APA Ethics Code

- Provides guidelines, not rules
- No rigid set of "do's" and "don'ts"
- Reasonable people can disagree about ethics of a particular study
- Researchers' values and judgments affect their views about ethics

The Need for Ethical Principles

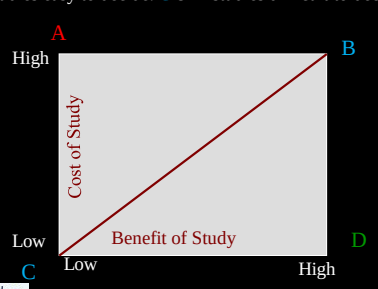
- Psychologists must ask and answer questions such as:
  - Are we putting our participants at risk?
  - Is our experimental treatment harmful?
  - Is the information we will gather from our experiment worth the potential risk and harm to participants that is involved?

"The conditions of the research should be such that investigators would be willing for members of their own families to take part".

—Cook, 1976

Ethic's Decision Plane Model

A & D studies easy to decide. C & B studies difficult to decide about.



IACUC

- At some institutions the IRB also reviews research projects that utilize animals.
- Many institutions have an Animal Care and Use Committee that reviews research projects that utilize animals.
  - IACUC – Institutional Animal Care and Use Committee
  - A veterinarian must be a member of any panel that reviews animal research proposals.

The Ethical Use of Animals in Psychological Research

- Brief summary of the APA (1985) guidelines for the use of animals:
  - ***Justification of Research.*** the research should have a clear scientific purpose.
  - ***Personnel.*** Only trained personnel who are familiar with the animal-care guidelines should be involved with the research. All procedures must conform to appropriate federal guidelines.
  - ***Care and Housing of Animals.*** Animal housing areas must comply with current regulations.
  - ***Acquisition of Animals.*** If animals are not bred in the laboratory, they must be acquired in a lawful, humane manner.

The Ethical Use of Animals in Psychological Research cont.

- ***Experimental Procedures.*** Humane consideration for the well-being of the animal should be incorporated into the design and conduct of all procedures involving animals, while keeping in mind the primary goal of experimental procedures – the acquisition of sound, replicable data.
- ***Field Research.*** Field research must be approved by the appropriate review board. Investigators should take special precautions to disturb their research population(s) and the environment as little as possible.
- ***Educational Use of Animals.*** The educational use of animals also must be approved by the appropriate review board. Instruction in the ethics of animal research is encouraged.

Institutional Review Boards (IRB) in U.S.

- Examine ethics of proposed research
- Need (at least) five members with varied backgrounds
  - One scientist
  - One non-scientist
  - One person not affiliated with institution
- Members must understand laws, regulations, and institutional policies
- For reviews of research on vulnerable populations, a member knowledgeable about issues is needed

Criteria for Approval of Research by IRBs

• Participants' risk is minimized	• Monitored data collection plan in place
• Anticipated benefits justify anticipated risks	• Participants' privacy protected
• Participant selection is equitable	• Confidentiality of data ensured
• Informed consent obtained and documented	• Especially for vulnerable populations, safeguards in place to protect participants' welfare and rights

Elements of Research Protocol

- Rationale for research
- Detailed information about procedures
- Description of benefits to participants and society
- Description of anticipated risks
- Risk/benefit analysis
- Description of informed consent procedures

Types of Research Usually Exempt From IRB Review

- Normal educational practices
- Educational tests, surveys, and interviews
- Observation of public behavior, if
  - no identifying information collected
  - participants are not put at risk
- Studies using archival data
- Taste tests of food
  - Any additives must be FDA approved

Note: Exemption must be verified by appropriate person (e.g., IRB administrator)

Ethical Considerations in Research Planning

- Risk of Harm
  - Likelihood and severity are evaluated
  - Benefits weighed against risk
- Categories of risk include possible
  - physical harm
  - inconvenience to participants
  - psychological harm
  - social harm

Risk of Harm

- Five factors to consider when assessing risk:
  1. Likelihood of risk occurring
  2. Severity
  3. Duration after research
  4. Reversibility
  5. Ways to ensure early detection

Risk of Deprivation

- Applies to research on treatment efficacy when control group receives no treatment (or less effective treatment)
  - Participants are deprived of treatment benefits
  - Risk depends on severity of problem being treated

Potential Benefits for Participants

- Payments that compensate for time/inconvenience
- Psychological benefits
  - Learned something of value about self
- Educational benefits
  - Learn about how and why research is conducted

Subject Pools

- Common: About 75 percent of psychology departments have them
- Justification: Participating in research has educational value
  - Critics disagree about value
- Alternative assignment must be offered

Subject Pools

Beware of potential for

- subtle coercion
  - Asking participants to stay for "second study"
  - Researcher is also course instructor or employer
- excessive inducement, such as
  - extra credit in course
  - large monetary inducements
    - More problematic for people in need

Informed Consent

Participants who agree to take part in research have a complete understanding of the risks and benefits involved

Elements of Informed Consent	
• Description of study procedures	• Description about any compensation
• Description of risks and benefits	• Contact person for information about participant rights
• Disclosure of alternative procedures/treatments (if any)	• Statement that participation is voluntary
• Information about confidentiality of records	• Statement that participant can withdraw without penalty

Behavioral Consent

Implied consent to participate in research shown through behaviors (e.g., completing a questionnaire)

- Or declining to consent (e.g., hanging up on telephone interviewer)

Informed Consent and Public Behavior

- Assumption is that people give implicit consent for others to observe what they do in public
- Generally accepted that researchers can observe public behavior without obtaining consent
  - Only if participants' identity is not recorded
  - May not apply if experimental manipulation used (as in a field experiment)
    - Question is whether manipulation mirrors 'everyday experience'

Competence to Give Consent

- Participants must understand risks and benefits and be capable of evaluating them

People with developmental disability	Prisoners	Mental patients
Introductory psychology students	Those who will earn extra credit	Those with a serious physical disease
People being observed at crossing light	Students taking one of two versions of an exam	People younger than 18 years old

Deception

- Active Deception: Participants receive false information about the research
- Passive Deception: Some information about the research is withheld

Reasons Deception is Used

- Participants who know research purpose/ procedures might change their behavior
- Participants may be reluctant to provide desired information
- Allows manipulation of independent variable (e.g., creation of fictitious person or group)
- Study event is hard to observe in natural setting
- Sometimes minimizes risk of harm (e.g., can control confederates' actions in potentially risky situations)

Some Objections to Use of Deception in Research

- Some ethicists argue
  - benefits never outweigh risk
  - lying is always unethical
  - cannot have true informed consent if deception used
  - when deception is revealed, participants feel foolish
  - deception threatens validity of research findings
  - the general use of deception makes participants generally skeptical
    - Might lead people to interpret real events as 'experiments'

Alternatives to Using Deception

- Study behaviors in natural settings
- Simulation/active role playing
- Passive role playing
  - Participants imagine themselves in a situation
  - Asked to respond as they would in that situation
  - Also used to assess participants' views about an experimental situation
    - How realistic is it?
    - How believable is it?
    - What ethical issues do they see?

APA Ethics Code and Deception

- Deception used only if
  - justified by study's prospective value
  - other procedures aren't feasible
- No deception if research might reasonably be expected to cause physical pain or emotional distress
- Explanation for deception provided as early as feasible
- Participants must be permitted to withdraw their data

Ethics During Data Collection

- Avoidance of harm: If study design poses risks to participants, researcher should screen potential participants for known risk factors
- Throughout study, researcher should monitor whether unanticipated negative effects are present
  - If severe responses occur, study should be suspended until
    - risk/benefits are re-evaluated
    - IRB gives permission to restart the study

Ethics During Data Collection

- Right to withdraw consent: Participants have the right to terminate their participation at any time without negative consequences or loss of benefits
  - No coercion or inducements can be used to persuade participants to continue
  - Any offered benefit (e.g., payment or course credit) must be given

Ethics Following Data Collection: Debriefing

- Purpose of research is explained
- Debriefing includes information about
  - independent and dependent variables
  - hypotheses and their rationale
  - procedures used
  - expected benefits of study
  - who to contact for further information

Components of Debriefing, cont.

- If deception is used, participants are
  - Dehoaxed: The nature of the deception and reasons for it are explained
    - Must be unambiguous
  - Desensitized: Any anxiety or adverse effects that stem from the deception are removed
    - Must be conducted completely and tactfully
  - given the opportunity to withdraw data

Effective Debriefing

- Takes place immediately after research participation (whenever possible)
- Emphasizes scientific value of research
- Possibility of perseverance effects is evaluated and addressed

  "Subject[s] ought not to leave the laboratory with greater anxiety or lower self-esteem than [they] came in with".

  —H. C. Kelman

Confidentiality

- Whenever possible, participants' data should be kept anonymous
- When not possible, options for protecting confidentiality include use of
  - participant aliases
  - code numbers on actual data sheets
  - encryption

The Professional and Social Responsibilities of Scientists

For the research scientist, every hypothesis is a new problem, a new opportunity to make mistakes.

—Friedman, 1992

For every complex problem, there is a solution that is neat, simple, and wrong.

—H. L. Mencken

Researchers' Responsibilities

- Researcher who is "in charge" is responsible for
  - her/his own actions
  - actions of others who work on project
- Researcher is thus obligated to
  - consider the ethical aspects of the research design
  - train students and research assistants about ethics

Mistakes

- are inevitable
- are distinct from culpable error
- become unethical behavior when due to
  - systematic carelessness
  - violations of good research practices

Why Are Some Mistakes Unethical?

Mistakes harm research participants because poorly designed research

- wastes participants' time
- may cause them to suffer discomfort for no purpose
- may lead to direct harm if safety precautions are not implemented

Why Are Some Mistakes Unethical?

Mistakes harm scientists' search for knowledge because

- erroneous research results can lead future investigators down false trails
- errors are difficult to purge from the scientific knowledge base
  - Sometimes cited up to seven years after acknowledged

Why Are Some Mistakes Unethical?

Mistakes harm the general public who may

- accept erroneous results as accurate
- experience unnecessary stress and fear

Sources of Culpable Error

- Incompetence
  - Lack of ability to design good research
  - Lack of competence in research subject matter
  - Incorrect statistical analysis

Sources of Culpable Error

- Negligence
  - Theory inaccurately analyzed or misunderstood
  - Inadequate literature review
  - Poorly conceived research design
  - Own or assistants' work not carefully monitored

Sources of Culpable Error

Misuse of data
- Data forgery: Experiment was never conducted
- Data cooking: Discarding data that does not support predictions
- Data trimming: Changing data values so they better fit the predictions
- Data torturing: Improper exploitation of statistical tests
- Data massaging

Recent Examples

- Dr. Diederik Stapel
  - Evidence of fraud found in dozens of experiments on person perception
    - Whistleblowers claimed he made up data
    - Dr. Stapel admitted to the fraud
- Dirk Smeesters
  - Rotterdam
  - Social Psych
  - Collected but massaged data
- Lawrence Sanna
  - U Mich
  - Social Psych –
    - people behave more altruistically if they are physically elevated, for example by riding an ascending escalator
- Marc Hauser
  - Harvard
  - Animal Cognition

Recent Examples

- Dr. Andrew Wakefield
  - In 2011, the British medical journal *BMJ* concluded his research showing a link between vaccines and autism was fraudulent
    - Medical histories of research participants were altered
- Karen Ruggiero
  - Harvard
  - Ruggiero, [2] K. M. & Marx, D. M. (1999). Less pain and more to gain: Why high-status group members blame their failure on discrimination. *Journal of Personality and Social Psychology*, *77*, 774-784.
    - 3 other articles in prominent journals (JPSP, PSPB, and Psychological Science) and grant applications for NIH
    -

Ethics and the Sponsors of Research

- Whistle-blowing
- Arriving at particular findings
- Limits on how to conduct studies
  - Contract research
- Suppressing findings
- Concealing true sponsor

EXPANSION BOX 5.6

Common Types of Misuse in Evaluation Research

- Asking "wrong" research questions (e.g., asking summative yes/no questions when formulative questions are most appropriate or asking questions that exclude major stakeholders)
- Requesting an evaluation study after a decision on a program has been made, using the study only as a way to delay or justify the decision already made
- Demanding the use of a research design/data collection technique that is inappropriate for the program evaluation task
- Interfering with the research design or data collection process to ensure that it produces desired results
- Continuing a program when the evaluation results unambiguously show it to be ineffective or ending a program when the results unambiguously show it to be highly effective
- Suppressing/deleting positive results to eliminate/reduce a program, or suppressing/deleting negative results to continue/expand a program

Source: Adapted from Stevens and Dial (1994), who also provide examples of misuse.

Corrections to Mistakes and Errors

Can take several forms:
- Publication of new research refuting previous results
- Request for printed correction for error in published study
- Retraction of article with serious error
  - Legacy of retracted articles?
- Written critique of error found in others' research

Misuse of Research Findings

- Exploitation: Using scientific knowledge to manipulate people in unethical ways
- Wasting resources: Wasting time and money because a well-intended application was based on invalid research
- Overgeneralization: Applying research results to a setting without testing whether they are valid in that setting
- Failure to apply research results: Research is available on topic, but is not used for policy and other decisions

Scientists' Role in Society

Societal mentor: Uses science as a way to address societal problems

- Is engaged in political process, but is neutral advice giver
- Presents both sides of issues
- Discusses strengths and weaknesses of research

Ethical Dilemmas

- Should research be *conducted* if results might be misused?
- How should research be *reported* if results might be misused (if at all)?
- Should scientists consider how the popular media might misrepresent their findings?

Should Research on Some Topics Be Banned or Restricted?

Socially sensitive research has potential social consequences or implications

- If research is misused, misrepresented, or misinterpreted, it causes harm
- Can be used to justify discrimination or failure to take action

Should Research on Some Topics Be Banned or Restricted?

- Researchers must weigh costs of doing socially sensitive research against costs (potential harm) of *not* doing it (loss of potential benefits)
- Some argue that publication of socially sensitive research should be limited by
  - self-censorship
  - editorial censorship

- "[Joseph Simmons] recently published a tongue-in-cheek paper in *Psychological Science* 'showing' that listening to the song *When I'm Sixty-four* by the Beatles can actually reduce a listener's age by 1.5 years. Simmons designed the experiments to show how "unacceptably easy" it can be to find statistically significant results to support a hypothesis

- In a survey of more than 2,000 psychologists, Leslie John, a consumer psychologist from Harvard Business School in Boston, Massachusetts, showed that more than 50% had waited to decide whether to collect more data until they had checked the significance of their results, thereby allowing them to hold out until positive results materialize. More than 40% had selectively reported studies that "worked". On average, most respondents felt that these practices were defensible

Selective Reporting

- Let's say you have this theory that, when you play Mozart, people want to pay more for musical instruments," says Simonsohn. "So you do a study and you play Mozart (or not) and you ask people, 'How much would you pay for a piano or flute and five instruments?'"
- If it turned out that only the price of a single type of instrument, violins, say, went up after people had listened to Mozart, it would be possible to publish a research paper that omitted the fact that the researchers had ever asked about any other instruments. This would not allow the reader to make a proper assessment of the strength of the effect that Mozart may (or may not) have on how much a person would pay for musical instruments.

How Prevalent is Misconduct?

- 2 percent of scientists admit to either having fabricated or falsified data at least once, and 14 percent say they've witnessed colleagues do the same. 33% for more nuanced transgressions.
  - Scientists sometimes lie about their methods to get around bureaucratic barriers. One anonymous researcher explains that NIH forbids the use of a chemical paid for by a different grant, even if the researcher happens to have enough chemical left over from a previous study. If the researcher followed the rules, he or she would have to buy a redundant bottle of the chemical.
  - The researcher said, "[a]nd of course, you have to sign that, 'Yes, this came from the funds used for this project.' But of course I use it for something else."
  - And once you've done it before and gotten away with it, there's little to stop you from doing it again. Shortcuts like that may even lead to routinely cutting corners, essentially creating an institutionalized pattern of misbehavior.

- Researchers examined a random sample of 281 psychology papers for statistical errors. They found that about half of the papers in high-end journals contained some statistical error, and that about 15 percent of all papers had at least one error that changed a reported finding — almost always in opposition to the authors' hypothesis.

Simonsohn Technique

akin to a "medieval instrument of torture: the accused is forced to confess by being subjected to an onslaught of vicious p-values which he does not understand."

"If it wasn't targeted towards people trying to reduce fraud in science, the sophomoric tone would be amusing,"

Replication

- one negative replication does not invalidate the original result. There are many mundane reasons why such attempts might not succeed. If the original effect is small, negative results will arise through chance alone. The volunteers in a replication attempt might differ from those in the original. And one team might simply lack the skill to reproduce another's experiments
- replication attempts should also be published under different rules. Like clinical trials in medicine, they should be pre-registered to avoid the post-hoc data-torturing practices that Simmons describes, and published irrespective of outcome. Engaging or even collaborating with the original authors early on could pre-empt any later quibbling over methods.

Control

- Submit original data/video etc.?
- Publish data online?
- Allow statisticians to assess analyses
- Publish null results (file drawer problem)
- All authors must analyze results separately
- "When we review papers, we're often making authors prove that their findings are novel or interesting," he says. "We're not often making them prove that their findings are true."

Table 2. Simple Solution to the Problem of False-Positive Publications

Requirements for authors

1. Authors must decide the rule for terminating data collection before data collection begins and report this rule in the article.
2. Authors must collect at least 20 observations per cell or else provide a compelling cost-of-data-collection justification.
3. Authors must list all variables collected in a study.
4. Authors must report all experimental conditions, including failed manipulations.
5. If observations are eliminated, authors must also report what the statistical results are if those observations are included.
6. If an analysis includes a covariate, authors must report the statistical results of the analysis without the covariate.

Guidelines for reviewers

1. Reviewers should ensure that authors follow the requirements.
2. Reviewers should be more tolerant of imperfections in results.
3. Reviewers should require authors to demonstrate that their results do not hinge on arbitrary analytic decisions.
4. If justifications of data collection or analysis are not compelling, reviewers should require the authors to conduct an exact replication.

Routledge
Taylor & Francis Group

Simmons et al. 2011