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# Ethical Considerations for Applied Lighting Research

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- Definitions
  - What are *research ethics*?
  - Why should you care?
- Principles
  - Systems of research ethics
  - Principles and example applications

## What are *research ethics*?

- **Norms for conduct** - distinguishing between acceptable and unacceptable behavior
  - Common sense?
  - How about the 2014 [Facebook emotion study?](#)
- **Method, procedure, or perspective** for deciding how to act and for analyzing complex problems and issues

## Why are research ethics important?

- Promote trust
  - Between researchers
  - Among the public
- Promote real knowledge
- Protect people from harm

- Many countries mandate specific systems
  - [International listing](#) (U.S. Dept of Health & Human Services)
  - e.g., Canada: [Tri-Council Policy Statement 2](#)
- Many professions have their own, e.g.,
  - [Canadian Code of Ethics for Psychologists \(4<sup>th</sup> ed, 2017\)](#)
  - [Universal Declaration of Ethical Principles for Psychologists](#)



# Universal Declaration of Ethical Principles for Psychologists

- **Principle I: Respect for the dignity of persons and peoples**
  - Includes: informed consent, freedom of consent, protection for vulnerable individuals & groups, privacy, confidentiality

## Sidebar: Free and Informed Consent

- With rare exceptions, participants must be informed before participation about...
  - What is the research study about?
  - Exactly what will I be asked to do?
  - Exactly what information will be collected\*? What will happen to my information? Who gets my information and who uses it? How will my information be protected? How long will my information be kept?
  - What are the risks?
  - What are the possible benefits?
  - Who do I contact if I have questions?
- Rare exceptions:
  - Minimal risk; anonymous participants (no personal identifiers); impossible otherwise to answer the question

- EU – General Data Protection Regulations
  - Applies if you are a researcher in Europe, or will have European research participants
  - Other countries may have or adopt similar regulations



# Universal Declaration of Ethical Principles for Psychologists

- **Principle I: Respect for the dignity of persons and peoples**
  - Includes: informed consent, freedom of consent, protection for vulnerable individuals & groups, privacy, confidentiality
- Scenario: Worldwide Lighting Company has approached you to conduct a field test of their radical new technology because you are a respected expert in applied lighting. The suggested research design is to install the new luminaires over a weekend in their own call centre and to compare agents' work performance before and after, using existing in-house automated data collection. They will do the installation themselves and then send you the data remotely.

*What are some of the ethical considerations here?*

# Universal Declaration of Ethical Principles for Psychologists

- **Principle II: Competent Caring for the Well-Being of Persons and Peoples**
  - Includes: competence; risk/benefit analysis; maximize benefits, minimize harm; offset or correct harm
- Scenario: Fred, a new postdoctoral fellow, has an exciting idea about the possible effects of green light on creativity in offices, but not much money for the experiment. This means means that his sample size will be small.

*How can he fulfil this principle?*

# Universal Declaration of Ethical Principles for Psychologists

- **Principle III: Integrity**
  - Includes: accuracy/honesty; objectivity; avoidance of incomplete disclosure and deception; avoidance of conflicts of interest
- Scenario: Diane, a graduate student, has funding for 3 years, but at the end of 2.5 years she has only 3/4 of the data needed for her main experiment. She asks a postdoc what to do, because she can't afford not to finish on time. The postdoc advises her to randomly sample cases from her data and copy those data to complete the full target number of participants.

*What are some of the ethical issues to consider here?*

# Universal Declaration of Ethical Principles for Psychologists

- **Principle IV: Professional And Scientific Responsibilities To Society**
  - Contributing to knowledge about human behavior [...]; and using such knowledge to improve the condition of individuals [...] and society.
- Scenario: University X has collected a huge dataset of light exposures and health outcomes for thousands of people over many years, including night-shift workers, day-shift workers, and people in different countries. A team at University Y has asked for access to the data to test their own hypotheses. U-X values openness, but this might mean they lose their own publication opportunities.

*What are some of the ethical issues to consider here?*

## Conclusions

- Understanding how light affects people doesn't come from shining light on a test tube, and is not the output of a computer simulation.
- Demands a high degree of co-operation from people – often people who won't directly benefit from the research.
- We researchers are privileged when they take part – there is no fundamental human right that allows us to demand it.
- Ethical principles must guide our decisions about how to conduct and report this research.
- **Research ethics are the foundation of responsible research.**

- [David Resnick](#) on bioethics
- [Michigan State University – Graduate School](#)
- [US Office of Research Integrity](#)
- US National Academies of Science: [Online Ethics Center for Engineering and Science](#)
- Council of Europe – [Bioethics](#)
- [Committee on Publication Ethics](#)



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