Ethics in research

Ethics

- a **method, procedure, or perspective** for deciding how to act and for analyzing complex problems and issues

- is commonly used to refer both to

  - morals beliefs (beliefs about what are right and wrong to do) and

  - ethical theory (justifications for moral beliefs).

Reasons to adhere to ethical norms in research

1. **promote the** aims of research, such as knowledge, truth, and avoidance of error

   - E.g., prohibitions against fabricating, falsifying, or misrepresenting research data promote the truth and minimize error

2. promote the **values that are essential to collaborative work**, such as trust, accountability, mutual respect, and fairness.

   - E.g. guidelines for authorship, copyright and patenting policies, data sharing policies, and confidentiality rules in peer review, are designed to protect intellectual property interests while encouraging collaboration

Reasons to adhere to ethical norms in research

3. research should be **accountable to the public**

   - E.g. policies on research misconduct, conflicts of interest, the human subjects protections, and animal care and use

4. help to build **public support** for research.

   - People are more likely to fund a research project if they can trust the quality and integrity of research.

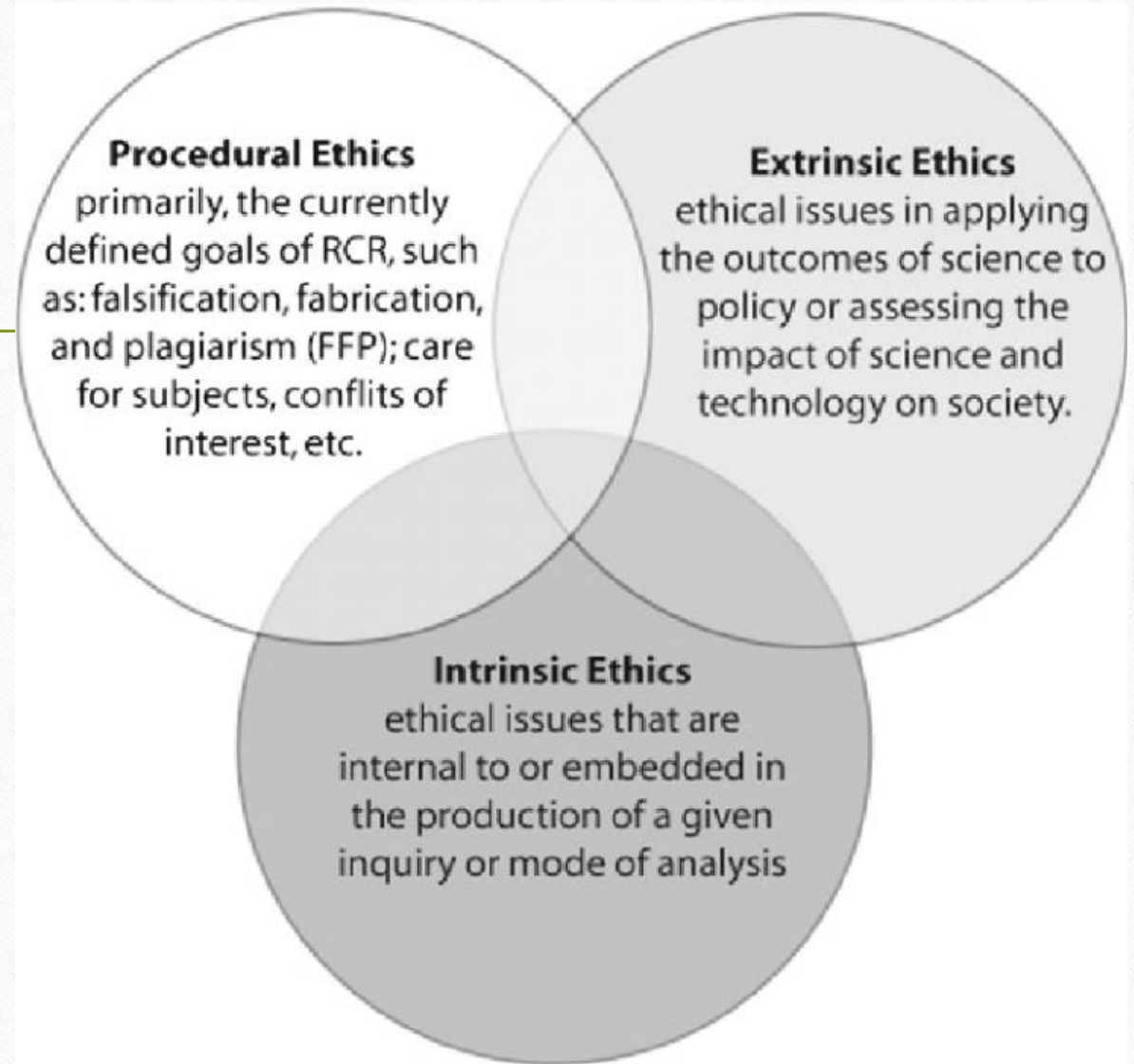5. promote a variety of other important **moral and social values**,

   - E.g. social responsibility, human rights, animal welfare, compliance with the law, and public health and safety.

Often research misconducts

- **Fabrication** - making up data or results and recording or reporting them.

- **Falsification** - manipulating research materials, or changing or omitting data or results such that the research is not accurately represented in the research record.

- **Plagiarism** - the appropriation of another person's ideas, processes, results, or words without giving appropriate credit.

  Does not include honest error or differences of opinion.

Ethical dimensions of research

Procedural Ethics
primarily, the currently defined goals of RCR, such as: falsification, fabrication, and plagiarism (FFP); care for subjects, conflits of interest, etc.

Extrinsic Ethics
ethical issues in applying the outcomes of science to policy or assessing the impact of science and technology on society.

Intrinsic Ethics
ethical issues that are internal to or embedded in the production of a given inquiry or mode of analysis

Basic ethical principles in research

1. Honesty
2. Objectivity
3. Carefulness
4. Openness
5. Intellectual property
6. Confidentiality
7. Responsible publication
8. Competence
9. Responsible mentoring
10. Respect for colleagues
11. Social responsibility
12. Integrity
13. Non-discrimination
14. Legality
15. Animal care
16. Human subjects protection

In details (1/2)

Honesty

- Honestly report data, results, methods and procedures, and publication status.
- Do not fabricate, falsify, or misrepresent data.

Objectivity

- Avoid bias in experimental design, data analysis or interpretation, peer review, grant writing, etc.
- Disclose personal or financial interests that may affect research.

Carefulness

- Avoid careless errors and negligence; carefully and critically examine own work and the work of the peers.
- Keep good records of research activities, such as data collection, research design, and correspondence with agencies or journals.

Openness

- Share data, results, ideas, tools, resources.
- Open to criticism and new ideas.

In details (2/2)

Intellectual property

- Honor patents, copyrights, and other forms of IP.
- Do not use unpublished data, methods, or results without permission.
- Give proper acknowledgement or credit for all contributions to research.
- No plagiarize

Confidentiality

- Protect confidential communications, such as papers or grants submitted for publication, personnel records

Responsible publication

- Publish in order to advance research and scholarship, not to advance just your own career.
- Avoid wasteful and duplicative publication.

Competence

- Maintain and improve own professional competence and expertise through lifelong education and learning
- Take steps to promote competence in science as a whole.