foRMAtion

Lesson 3 - Research Integrity and Ethical Conduct

Keywords

- Ethics and compliance
- Ethical code of conduct
- Research Lifecycle
- Integrity
- Objectivity
- Peer review
- Authorship
- Fabrication
- Falsification
- Plagiarism

Learning Objectives

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Module 1. Lesson 3. Scientific integrity and Responsible Research - YouTube

Researchers are part of society; as knowledge generated by research contributes to solving major societal problems, **scientific integrity and ethics become key aspects of the research activity**. Therefore, research institutions and funding agencies have increased requirements and professional practices to reinforce trust in research. In this task of consolidating values and practices of research integrity, every actor must be engaged:

> It is essential that institutions foster a culture of integrity in which students and trainees, as well as senior researchers and administrators, have an understanding of and commitment to integrity in research.

Source: *National Research Council (US) and Institute of Medicine (US) Committee on Assessing Integrity in Research Environments, 2002*

Ethics and Compliance

Ethics and compliance are key players in research. Ethics is the act of critically reflecting on the norms, conventions and consequences of human actions and their beliefs in society

(Briggle and Mitcham, 2012). Compliance means respecting the institutional rules and codes of conduct (i.e. regulations on ethics and guidelines, codes of conduct in research).
Scientific activity presents many challenges and dilemmas, especially when research involves human or sentient beings. Therefore, it represents a horizontal activity within the research lifecycle: from compliance with ethical guidelines and data collection, in the development phase of the project idea, to compliance with specific regulations of funding agencies, in the project management stage. All the following actors involved within the research lifecycle should be made aware of and have access to ethics compliance principles:

- students and researchers should be provided with training and access to ethics guidance;
- RMA staff working with research directly;
- supervisors and research group coordinators;
- deans, directors and decision-making board members.

Key Cases in Research Ethics

The Nuremberg Trials (1945-1946): Military trials held following WWII by Allied forces that led to the creation of a set of guidelines by the International Law Commission of the United Nations. Namely:

- *The Nuremberg principles*: which describe what constitutes a war crime
- *The Nuremberg Code (of Ethics):* a set of research ethics principles for human experimentation. Medical experiments conducted by German doctors led to the creation of the Nuremberg Code to control future trials involving human subjects.

The Helsinki Declaration (1964): a set of ethical principles regarding human experimentation developed for the medical community and created by the World Medical Association.

The Belmont Report (1979): defined the core ethical principles (respect for persons, beneficence, justice, key cases in research ethics) and the primary areas of application (informed consent, assessment of risks/benefits, and selection of subjects). Created by the National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research.

There are four interlinked key principles for ethical research:

1. **Respect for human beings:** making sure each person involved in research, participates by free will and that their rights and cultures are respected;

2. **Beneficence**: Everyone involved in the research gets something positive out of it, not just the researcher;

3. **Justice**: making sure that research is fair and inclusive: no section of a community of the population is deliberately left out (i.e., children, marginalised groups, people with disabilities, etc.);

4. **Merit and Integrity**: researchers need to be experienced and competent, conducting research in such a way that allows others to have confidence and trust in the methods and the findings of research.

Existing Codes of Conduct: EC Charter and Code of conduct for Researchers

Within the framework of the implementation of the European Research Area, the European Commission developed the Charter and Code for Researchers, in 2005, to promote the improvement of conditions for research work and boost career development for researchers.

The Code and Charter can be endorsed by the R&D institutions as a seal to attract researchers. It defines a set of general principles and requirements which specifies roles, responsibilities and entitlements of researchers, as well as of employers and/or research funders.

Figure 6 - General Principles and Requirements applied to the researcher (Source: EURAXESS)

Access the Charter here:
https://euraxess.ec.europa.eu/jobs/charter/european-charter

Ethics through the research lifecycle

1. Planning research

Research begins with developing the research problem or research questions. At this stage, ethical issues may arise - for example, conflict of interests and judging the value of research.

a. **Conflict of interests** - any interest that undermines research involving financial gains, personal relationships or other relationships that can influence the research design, interpretation of data or dissemination of research (Briggle and Mitcham, 2012).

b. **Judging the value of research***:* when analysing the value of the research idea, researchers need to consider if the research they are proposing follows the values of research integrity. Is the research worth doing? Whose interests will it serve? Are there possible negative side effects? What are the justifications: making money, personal gains?

2. Implementation

During the active research phase new ethical dilemmas can arise. Briggle and Mitcham (2012) identify the following: (a) *objectivity, inferences, and data management*; (b) *bias and self-deception*, and (c) *trust*.

a. **Objectivity, inferences, and data management** - researchers conduct their work based on observation and inferences from the interpretation of collected data. It is important to maintain objectivity and ethical norms such as honesty, carefulness, accuracy and open-mindedness.
b. **Bias and self-deception** - research inferences and interpretation of data can also be undermined by systematic biases or false assumptions. External review or verification is an important tool to identify existing biases in research. *Self-deception* stems from the exercise of wishful thinking and carelessness. Researchers must undertake a self-evaluation exercise geared to maintaining objectivity and accuracy to avoid deceptive assumptions.
c. **Trust** - research is based on mutual trust between researchers and participants, stakeholders, funding authorities and public audiences. Researchers must ensure and build trust by conducting research following transparent norms and values, present in the code of conduct and secure ethical screening.

3.Disseminating findings

Disseminating and communicating research results is a key activity of research. Important aspects researchers must consider are a) **peer review** and b) **authorship**.

a. **Peer review** - is an important process that must be undertaken throughout the research lifecycle, but most importantly when publishing research findings. It allows us to eliminate existing biases, errors and deceptions.
b. **Authorship** - citing the work and providing the credits of other researchers and peers represents a key element of ethical conduct.

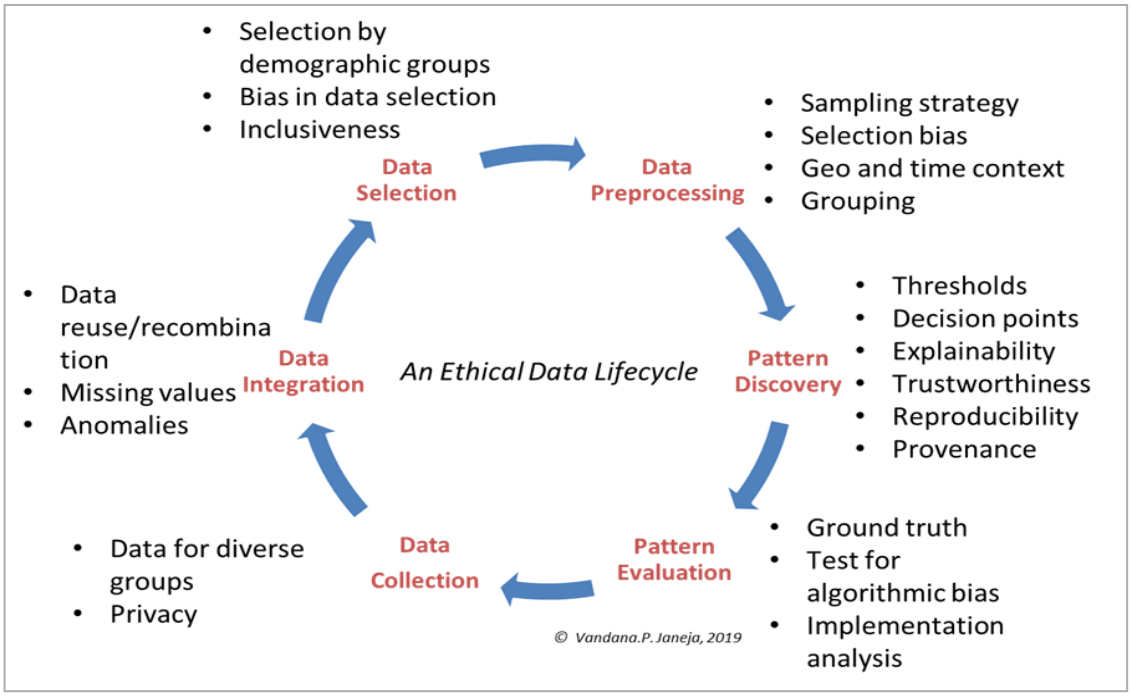

Figure 7 - Ethics in the research lifecycle
(source: https://www.aaaspolicyfellowships.org/blog/do-no-harm-ethical-data-life-cycle)

4.Scientific misconduct

Falsification, fraud or plagiarism in conducting, reviewing, disseminating and reporting research.

- **Fabrication** - Making up data or results and recording or reporting them as factual results.
- **Falsification** - Manipulating research materials, equipment, or processes; changing or omitting data results such that the research is not accurately represented in the research records.

- **Plagiarism** - The appropriation of someone else's ideas, processes, results, or words without giving appropriate credit, including those obtained through confidential review of others' research proposals and manuscripts.

RMA's role in Ethics and Compliance

Research Managers and Administrators are active actors in the research lifecycle, supporting researchers in their daily activities.

Transversal to all activities

- Processing research ethics applications, i.e., collecting information from the lead researcher, creating and maintaining electronic and/or paper files, assisting researchers in completing consent forms and information sheets, collating applications and disseminating for review, disseminating, reviewing and recording committee/panel decisions, ensuring all relevant paperwork is in place as appropriate (ARMA Professional Development Framework, 2011).

Grant Preparation

- Raising awareness and providing 'up-to-date' information to comply with research ethics and governance requirements of the funding agencies.
- Providing ethical resources to researchers.

Contract negotiation

- Monitoring regulatory, governance and ethics issues arising from the contract.

Reporting

- Reporting and checking regulatory, governance and ethics issues.

At the institutional/governance level

- Supporting the development of institutional strategies about research ethics and governance.
- Maintaining oversight of institutional research ethics and governance processes and systems.
- Producing FAQs for key areas (i.e., IP, ethics, liability, legislation, governance) and making them available to the rest of the staff.

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