HOKKAIDO UNIVERSITY

Research Ethics

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1. Introduction

Purpose and Aim

Purpose: to understand what constitutes research ethics and misconduct

- **Reason 1: to prevent unintended misconduct**
- **Reason 2: to avoid suspicion of misconduct**

Aim: to understand what research ethics and misconduct are in order to judge which acts are impermissible; to understand and explain the reason(s) they constitute misconduct; and to be equipped with the means and methods to avoid misconduct

When conducting research…

- What does authorship mean?
- As an author, what sort of responsibility do you have to take?
- Is it permissible to publish the result if only one experiment succeeded?
- If not, how many times should experiments be conducted?
- Should “salami” publications be acceptable?

These issues are matters of research ethics.

Study Goals

By the end of this lecture, you will be expected to be able to explain:

1) why we need to understand, learn and acquire research ethics;

2) which acts/behaviours constitute research misconduct;

3) what methods and means are available to prevent misconduct.

2. What is Research?

What is Research?

What exactly does “research” mean?

Some concepts are similar to “research”, including:

- **“learning”**
- **“study”.**

How does research differ from these?

What is Research?

Learning: “gaining knowledge or skill by studying, from experience, from being taught, etc.”

Study (narrow sense): the activity of gaining knowledge of facts that have already been discovered.

Research: careful study of a subject in order to discover new facts or information about it.

Functions of Higher Education Institutions

1. To provide opportunities for students to study and conduct research
2. To provide students with the knowledge and techniques necessary for studying and conducting research
3. To provide opportunities for the faculty to research and teach
4. To provide the faculty with the knowledge and techniques required for research and teaching

3. Ethics of Research, Ethics in Research

Ethics and Research

Ethics is concerned with human activities.

Human activities are an object of ethics.

Since research is a human activity, it is an object of ethics.

Since ethics is an enquiry into the moral goodness/rightness and badness/wrongness of an human act, we can ask what sort of research is morally good and right (or bad and wrong).

Rightness of Research

Is there morally right or morally wrong research? If so, what are they?

1. Morally right research

- **Example: research into a vaccine against a deadly infectious disease**

This looks morally right. However,

- **if an international pharmaceutical corporation funded research and monopolised the patents of the vaccine and sold them at a very expensive price…?**

Rightness of Research

2. **Morally wrong research**
   - **For instance: research into a virus that can be used for bio-terrorism**

What if such research had little difference from research into the vaccine against the virus?

- **Few examples of research per se can be considered morally right or wrong.**
- **Judgement may be context-dependent.**

Rightness of Research

Another example: research with military characteristics.

- Is it wrong? Not necessarily.

There are cases of “dual use”.

- For example: research into a vaccine against the virus that can be used for bio-terrorism

But there may be essentially wrong research.

- For instance: military research on “enhanced interrogation” (i.e. interrogative torture) techniques to extract information effectively and efficiently

Rightness in Research Conduct

How should we conduct research?

- **Is there rightness or wrongness in conducting research? If so, what conduct do they include?**

Rightness in research conduct means "right means and methods in conducting research":

- **quoting the literature in the correct manner;**
- **collecting and using data by correct means and methods.**

Rightness in research conduct leads to reliability of the research.

Rightness in Research Conduct

"Misconduct in research" means "wrong means and methods in conducting research":

- **fabricating and falsifying data;**
- **plagiarising other people's research.**

Any research conducted by wrong means and methods cannot serve to discover new facts.

In order to conduct research correctly and avoid misconduct, we need research ethics.

Two Types of Research Ethics

Summary of this section:

1. **There is a distinction in research ethics: ethics *of* research and ethics *in* research.**
2. **Ethics of research aims to avoid morally wrong research, such as research into interrogative torture techniques.**
3. **Ethics in research aims to avoid wrong means and methods of conducting research.**

4. Research Ethics

Two Senses of Research Ethics

Research ethics means “a set of norms, rules and standards that researchers must acquire and abide by”.

A narrow definition of research ethics would be “a set of norms, rules and standards for conducting research”, including:

- **prohibition of fabricating and falsifying data;**
- **prohibition of plagiarism;**
- **protection of the rights of research subjects**

Two Senses of Research Ethics

A broad definition of research ethics would be: “a set of norms, rules and standards adhered to as members of the research profession” (academic ethics). This includes:

- **authorship**
- **peer review**
- **funding**
- **mentor-trainee relationship**

Research Ethics as Professional Ethics

If researchers are professionals, they must have their own ethical norms and standards.

Why do professionals need to have their own specific ethics?

Because professionals have responsibility to a significant degree when engaged in the profession, since they have great power and privileges that they use for their activities.

Research Ethics as Professional Ethics

Two distinctive characteristics of professionals:

1. Professionals provide vital and indispensable services to society through their activities.

2. Laypeople have to trust and rely on professionals for the service they provide.

We want all kinds of professionals to have a high standard of ethics.

Researchers as Professionals of Research

- **Professionals are expected and required to acquire and follow a high standard of ethics.**
- **What do researchers provide to this society as professionals?**
- **Researchers, the professionals of research, are expected and required to realise the public value of development of knowledge of humankind through their activities (i.e. the pursuit of truth).**

Research Ethics as Professional Ethics

Researchers are expected and required to achieve their missions by following research ethics, which is:

1) a special kind of professional ethics peculiar to those members in the research profession (the broad definition of research ethics);

2) ethics necessary for researchers when engaged in their activities (the narrow definition).

Functions of Research Ethics

1. To condemn cases in which researchers are deliberately engaged in research misconduct.
2. To remind us of, prevent and avoid unintentional, careless, mistaken or unintended but questionable research practices.
3. To empower us to deal with complex and/or context-dependent situations in which an act in question is in a grey area or suspected to constitute misconduct.

5. Research Misconduct

Research Misconduct

Research misconduct means “breaches, violations and infringements of norms, rules and standard envisaged in research ethics, regardless of the intention of a researcher in question”.

Narrowly defined, misconduct includes:

- **fabrication**
- **falsification**
- **plagiarism**

Research Misconduct

Broadly defined, misconduct includes:

- **failing to acknowledge the contribution of a collaborating researcher (without his or her consent);**
- **misuse/abuse of grants for something irrelevant to the purpose of the research;**
- **nepotism and other kinds of discriminatory bias in the peer-review process of a paper submitted for a refereed journal.**

Causes of Research Misconduct

There are various causes of research misconduct:

- a mistake, lack of knowledge, an accident, ignorance, carelessness, arrogance, fudging research results, etc.

The causes may vary, but some misconduct could have been preventable and avoidable if the researchers had been aware of research ethics.

Categories of Research Conduct

1. An acceptable, non-blamable, and/or recommendable practice

2. A practice in a “grey area”

3a. A practice in which deception is involved but permissible

3b. A morally questionable practice

4. Research misconduct

Prevention and Avoidance of Misconduct

An intentional act of fabrication, falsification and plagiarism axiomatically constitutes research misconduct and a violation of research ethics.

However, it is often difficult to judge whether a given act meets the requirements of research ethics.

If so, the question to be addressed is how we can deal with grey area cases and prevent and avoid unintended and/or careless but questionable research practices.

6. Three Attitudes towards Research Ethics

Three Attitudes towards Research Ethics

Three attitudes towards research ethics:

1. **Compliance model: “we will abide by research ethics because we would be condemned and punished if we did not”.**
2. **Social responsibility model: “we will abide by research ethics because the premise is that we fulfill social responsibility as research professionals”.**
3. **Positiveness model: “we will abide by research ethics since research is our honour, pleasure, worth living for, raison d’être ”.**

1. Compliance Model

The basic idea: researchers abide by research ethics so that they do not get condemned or punished.

Rationale: to avoid disbenefits – primarily to oneself and secondly to one's colleagues and/or institution.

Characteristic: this model could *passively* motivate researchers to abide by research ethics.

Problem: this may cause a wrong idea that "anything else is OK unless an act is prohibited by rules". This might produce loophole-seekers or sensible knaves who eschew rules.

2. Social Responsibility Model

The basic idea: researchers abide by research ethics in order to fulfil social responsibility as research professionals.

Rationale: as members in the profession of research, researchers owe responsibility to society to uphold the highest professional standards and ethics.

Characteristic: this model fits with our commonsense idea as to why research ethics is important.

Problem: A sense of social responsibility does not always strongly motivate researchers to follow research ethics.

3. Positiveness Model

The basic idea: researchers abide by research ethics because research is their honour and pleasure.

Rationale: upholding research ethics is a process of self-realisation, self-validation and self-affirmation, and by so doing researchers can enjoy their profession with pride, honour and pleasure.

Characteristic: this model could positively motivate researchers to abide by research ethics.

Potential problem: it may lead to self-righteousness, self-indulgence, and self-deception; humility is a virtue required to avoid these pitfalls.

Attitudes and Virtues

The three attitudes towards research ethics are not mutually exclusive. Rather, they are complementary and work in harmony.

Virtues for "good" researchers include:

- **1. integrity**
- **2. commitment**
- **3. service**
- **4. positiveness with humility and modesty**
- **5. prudence to avoid unnecessary disbenefits**

7. Tests for Judgement of an Act

Tests for Judgement of an Act

1. Professional test: is the act permissible by reference to the professional standard?
2. Harm test: does the act potentially cause serious harm to others and/or yourself, physically, mentally or both?
3. Reversibility test: what would you think if another person did this? Is it permissible, acceptable, and/or not blamable?

Tests for Judgement of an Act

4. Universalisability test: what would happen if everyone did such an act? Is it permissible, acceptable, and/or not blamable?
5. Publicity test: Can you disclose your act to your colleagues and bosses, the academic society you belong to and the public? Would your act be blamed or condemned if it were known to bystanders as well as stakeholders?

How to Use the Tests

Check an act with each test.

- **If it passes all tests it would satisfy research ethics.**
- **If it fails all tests it would constitute research misconduct.**
- **If it fails one or more, it should be suspected to constitute misconduct or be in a grey area.**

Functions of Tests

1. To clarify cases in which an act categorically constitutes research misconduct.
2. To remind us of, prevent and avoid unintentional or careless misconduct or questionable research practices.
3. To empower us to consider and better deal with complex and/or context-dependent situations in which an act in question is in a grey area or suspected to constitute misconduct.

8. Imaginary Case

Unethical Research Laboratory?

“It seems to you that the means and methods of research taken by a senior PhD candidate do not satisfy research ethics…”

What should you do?

Unethical Research Laboratory?

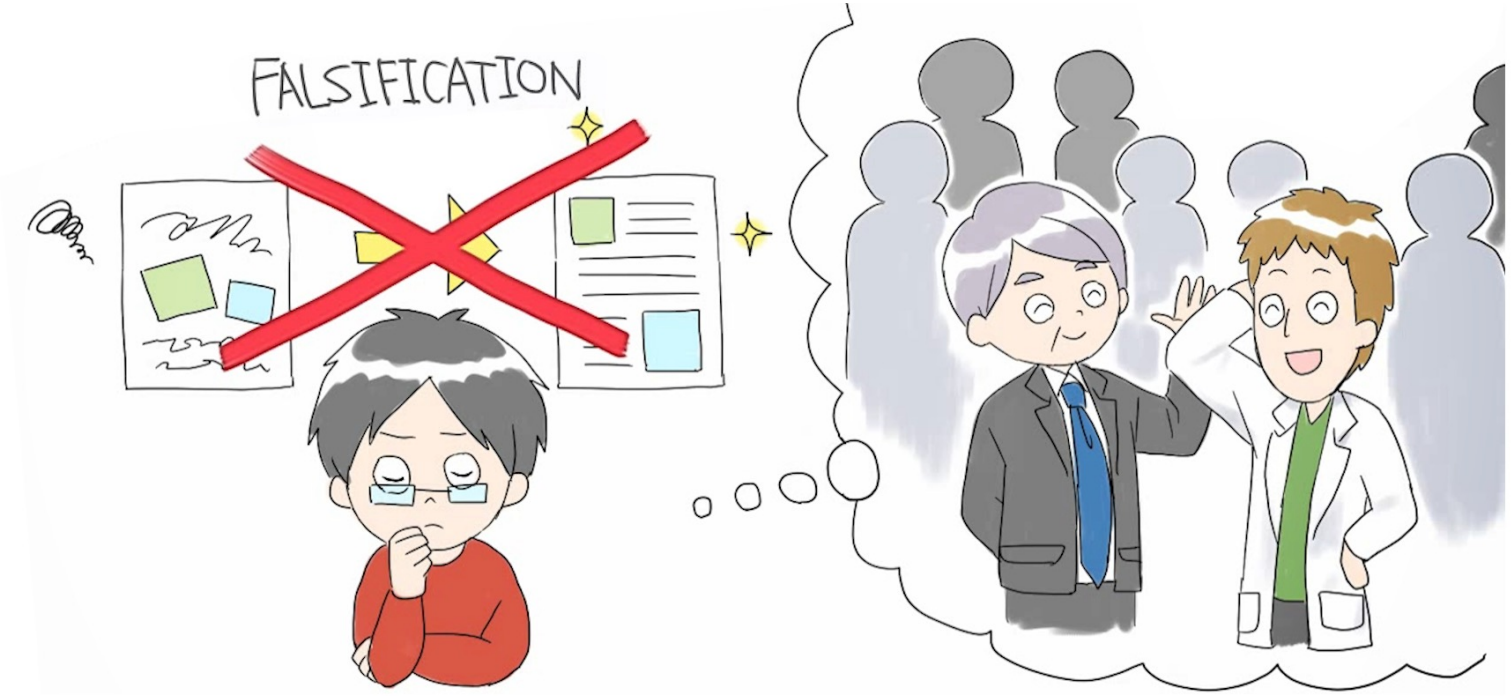
The detailed situation

- You were enrolled in your first choice of research laboratory. At the lab, a senior colleague teaches you means and methods of research. He is very talented in research and famed for his brilliance. He will shortly finish writing his PhD thesis. One day, by accident, you see his research notebook open and left on the communal desk. You notice that the data written in the notebook seem strange…The data in the notebook are different from those obtained by the experiments!

Unethical Research Laboratory?

Here, suppose that you think in this way:

- **"He is not engaged in an illegal act but his act seems an act of falsification. If so, it must be research misconduct. But I might have misunderstood. He is respected by other members of the lab and trusted by professors. He has taken care of me well. He has a job offer from a world-famous research institute."**



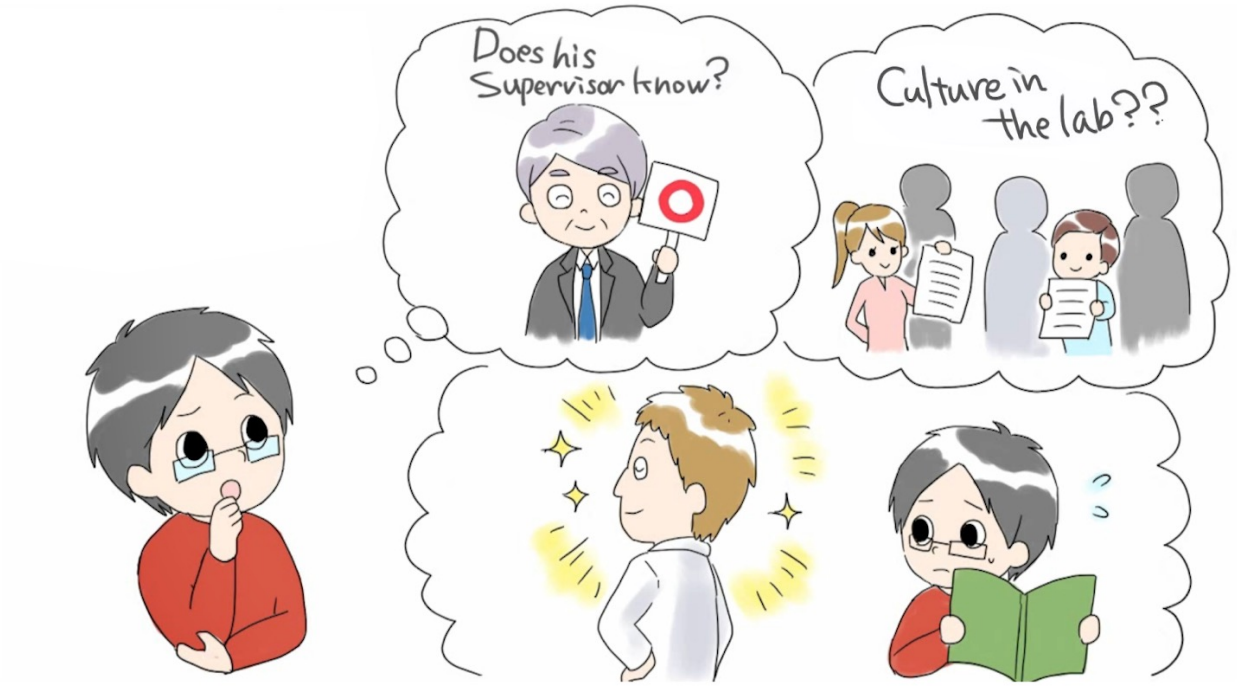
Unethical Research Laboratory?

- **“What if he published a research paper based on dubious data? What if someone else found that the data in question were falsified after the paper was published? Obviously, he would be in trouble. Possibly his supervisors would be too. Moreover, it would be a critical matter of reputation of the lab and university. Is it none of my business? Perhaps not.”**

Unethical Research Laboratory?

- **“Wait a second. Do other members of the lab know about his practice? Does his supervisor know? Is it considered to be a generally accepted standard operational procedure? Is it just a culture in the lab and academia in general? Maybe I just do not understand the correct response. But I am not sure whether it is perfectly OK to leave it alone.”**

What should you do as a researcher in this situation by reference to research ethics?



Consider the Imaginary Case

Consider what you should (or should not) do in the imaginary case.

Step 1: list as many acts as you can imagine.

Step 2: check each act with each test.

Step 3: compare the results and put in order the acts you should (or should not) do, according to moral permissiveness, feasibility and timeline.

9. Conclusion

Conclusion

- **Researchers need research ethics, not only because it makes them aware of the potential disbenefits caused by research misconduct but also because it actually helps them prevent/avoid misconduct.**
- **Researchers are professionals whose mission is to contribute to further promotion of the advancement of knowledge of humankind through their professional activities (research as the pursuit of truth).**

Conclusion (contd.)

- **Research ethics means:**

1) **a special kind of professional ethics peculiar to those members in the research profession;**
2) **ethics necessary for researchers when they are engaged in their business.**

Conclusion (contd.)

- **The tests for judgement of an act in question empower us to consider and better deal with complex and/or context-dependent situations in which an act is in a grey area or suspected of constituting misconduct.**

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Acknowledgements

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