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Ethics and academic writing

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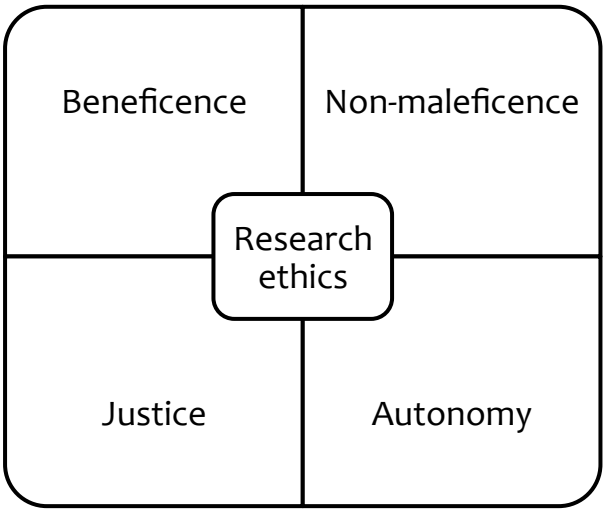
General ethical principles



Ethical rules for research

- Honesty
- Credit
- Carefulness/accuracy
- Openness
- Freedom
- Integrity
- Social responsibility
  - Respect
  - Precautionary principle
- Social utility/efficiency
- Justice

Scientific misconduct and fraud

- **Fraud** is an intentional deception made for personal gain or to damage another individual
- **Misconduct** is a failure to follow established protocols/guidelines, not necessarily intentional
- Out of surveyed academics, 72% reported observing questionable practices in others, and 2% admitted to fraud and 14% to misconduct (Fanelli, 2013)

Fabrication (fraud)

- Invention of data (sets) or research results that are recorded or reported i.e. reporting non-existent data
  - Running experiments and reporting x±1 experiments
  - Running a data analysis three times in an hour and reporting data readings 1hr, 1 day and 1 week from the event
  - Reporting 15 informants when in reality data set comprises of 15± x informants
  - Completing informed consent forms for the subjects in the study

Falsification / Misrepresentation (fraud)

- Deliberate distortion or omission of undesired data or results i.e. selective reporting of data
  - Manipulating images or data presentation
  - Using specifically selected sub-sets of very large data sets
  - Qualitative data (interviews, questionnaires)
  - Statistical interpretation and presentation
  - Explaining research conditions and methodologies
  - Selective reporting

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Why we publish our results?

- Brainstorm as many reasons as you can to why we publish?
- If it helps, imagine research without publishing, what would it look like?
- Write your list

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Ethical challenges in publishing

- Plagiarism
- Unethical authorship
- Citation bias
- Divided and Repetitive publication
- Undeclared conflict of interest
- When and where to publish
- Review process
- Open access

Plagiarism (fraud)

- Presenting other people's words and ideas as your own
- Why is this important?
  - theft
  - credit / intellectual property rights
  - reliability
  - systemisation
- Sentence? Paragraph? Section?
  - copying (e.g. by cutting & pasting) from another assessment task, book, journal or internet source in its entirety (e.g. 10 word long sequence)
  - copying from a source and making only minor changes i.e. substituting one or two words with a synonym
  - using an author's phrases, expressions or graphs without acknowledgement
  - Adopting an idea or research plan as one's own without appropriate consultation with original creator of the idea

Detecting plagiarism

- Electronic plagiarism detection software
- Used on match online sources to any text
- Gives a % of similarity
- Usually looks strings of words (e.g. 10words)
- Used by
  - universities – e.g. TurnItIn or Urkund (Helsinki University)
  - used by journal editors – e.g. CrossCheck / iThenticate
- Free software available online
  - .e.g paperrater.com or writecheck.com

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Is this plagiarism?

- A graduate student writing his research proposal copies whole sentences and paragraphs from several other publications. These sentences and paragraphs are not shown to be quotations in the research proposal, but their sources are listed in the references at the end of the proposal.

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"A student using a surface approach to learning aims merely to fulfil the course requirements and thus focuses on repeating the information to be learned. The student studies without clear objectives. As the main focus is on the repetition of the learning material, comprehending new concepts seems difficult, and the student often feels there are too many things to be learned." (Lindblom-Ylänne et al., 2009, 91.)

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http://blogs.helsinki.fi/alakopsaa/for-student/?lang=en

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Student writes:

- When a student merely aims to fulfil the course requirements he or she uses a surface learning approach. He or she focuses on repeating the information to be learned and studies without clear objectives. Repetition of the learning material is the main focus. Comprehending new concepts becomes difficult. The student feels there is too much to be learned.

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+ Standing on the shoulders of giants

- Work should be grounded in the academic discourse
- Use:
  - citations
  - quotations
  - paraphrasing

"If I have seen further, it is by standing on the shoulders of giants."
Isaac Newton

+ Paraphrasing

- A proper paraphrase requires you to present an author's particular thoughts and ideas using your own unique phrases, sentences and structures while retaining the meaning.
- Paraphrased sections MUST have a reference to the original text or source
  - Poor paraphrasing often ends up as negligent or unintentional plagiarism.
- To help with paraphrasing:
  - Never write with the original text in sight, just refer to your own notes.
  - Note down the main ideas of the text quickly and roughly while reading through.
  - Before writing, explain the theories, material, or data to someone else (or to yourself).
  - After writing the paraphrase, re-read the original text to make sure you have all the essential information correct and check you have not accidentally copied the author's phrases.

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Student writes:

- Some students adopt a surface approach to learning. These students do not have clear goals for their studying. They are not focused on learning or mastering the topic. Instead, they just try to get through a course or an exam, and might not care whether or not they learned anything. This approach to studying becomes difficult in the long run. The amounts of isolated facts, that the students feel that they need to memorise, becomes too large, as simply memorising without understanding is not a good strategy for learning. (Lindblom-Ylänne & al., 2009.)

http://blogs.helsinki.fi/alakopsaa/for-student/?lang=en

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Try to paraphrase

- Plagiarism is the act of taking another person's writing, conversation, song, or even idea and passing it off as your own. This includes information from web pages, books, songs, television shows, email messages, interviews, articles, artworks or any other medium. Whenever you paraphrase, summarize, or take words, phrases, or sentences from another person's work, it is necessary to indicate the source of the information within your paper using a citation. It is not enough to just list the source in a bibliography at the end of your paper.
- The University of Helsinki uses the Urkund system, intended for identifying plagiarism and practice of scientific writing. Urkund compares a text sent into the system with its own database, constructed e.g. from encyclopedias, scientific and newspaper articles, books, student theses and coursework. Starting with the study year 2014-2015 all pro gradu theses at the University of Helsinki will be checked using Urkund, and teachers can already utilize the system for other works.

Other forms of plagiarism

- Self/auto-plagiarism
- Common knowledge or so-called Wikipedia-knowledge
- Misappropriation
  - Plagiarism of ideas

At risk to plagiarise

- writing in your non-native language
- writing under pressure
- writing about a new topic
- lack of knowledge of local conventions

+ Unethical authorship

- Why does it matter who is the author?
- Who should be the author?

Authorship credit should be based on

1. substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data;
2. drafting the article or revising it critically for important intellectual content;
3. final approval of the version to be published.

Authors should meet conditions 1, 2, and 3.
All authors meeting the criteria should be listed.

(ICMJE guidelines aka Vancouver guidelines)

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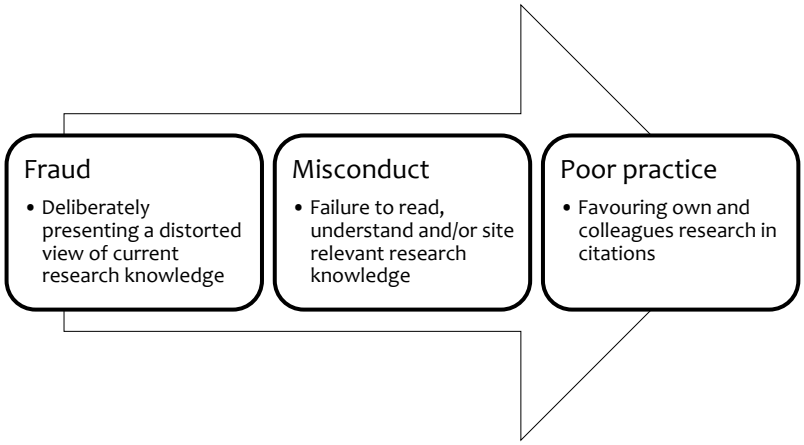
Authorship

- Why is Maryam concerned? Should she be?
- What options has she got?
- How would each option affect stakeholders?
- How would you advise Maryam?

- Maryam is the first author on a conference paper. She has completed most of the experiments for the paper herself. She has also done most of the writing and two of her colleagues have commented along the way. Liam was included as the fourth author, though he did not participate in the writing process, but volunteered to present the paper at the conference. It appears that Liam's main motivation was to visit the location of the conference. His presentation only loosely connected with the submitted paper.
- Now Maryam is writing the conference paper for publication. Her two colleagues remain active in the writing process and she feels they are naturally included as authors. Including Liam as an author is more challenging. Liam is a senior colleague in the group and well known in the field. Liam has been actively supporting Maryam with her post-doc plans using his broad network to find the best group for Maryam to continue her work.

+ Citation bias



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Citation bias

- Is there a concern for misconduct or fraud?
- How would you advise Maxim?

Maxim is doing is PhD in a joint project between two Universities. The groups have been studying magnetic fields for two decades. Continuing unresolved issues led to the new project, which hosts Maxim's PhD.

As a result, Maxim finds himself referencing mainly the previous works of these groups in his own paper. There is however a significant body of research in this field outside Maxim's group.

This is Maxim's third paper as a member of this group. This paper is co-authored by colleagues in both universities and reports research using a methodology developed during previous phases of this project and some work Maxim has published on before.

One or more publications

- 'Whole story' in one publication
- Divided or 'salami-slicing': Results form one study are 'artificially' divided for publication in two or more papers.
- Repetitive/dublicate: Publishing the same information two or more times (e.g., in journal articles and book chapters).
- When is it too early to publish?

Keeping a secret

- Develop a consequentialist argument supporting and refuting this decision
- What are the non-consequentialist arguments to be considered?
- Was the decision
  - Justified
  - Unjustified

Tom is working on a very interesting project that has far reaching potential for application both commercially and environmentally. The results have been very encouraging, but the team is still a fair distance away from having a solution to their problem after three years of work. However, Tom is a PhD student needing publications in order to graduate.

He goes to a conference with a poster with broad description of the project and wins best poster award. Following this there is a lot of interest in the project and fake journals asking him to submit a manuscript with more detail.

The team then decides to write three publications simultaneously to reduce risk of any other (larger) group being able to take over the project.

+ Where to publish

- Quality vs quantity
- Low impact vs high impact
- Language
- Discipline
- Is it ever an ethical question?

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When and where to publish?

- What is the ethical issue?
- Who are the stakeholders and what is influencing their decision-making?
- What can Tao do?

Tao is a PhD student writing a paper with his professor and a a senior academic from another university. The theory part of their paper is solid and experiments show that their results could have important practical applications. Tao's professor is under significant pressure from the university to publish in prestigious journals only. The senior academic's university has ruled that all their research must be published in open access journals. Authors feel there is only one journal that satisfies both universities.

The senior colleague is mostly responsible for the theory included in the manuscript. Tao was responsible for conducting the empirical test runs and the professor contributed to the theory and interpretation as well the supervision of Tao.

The professor writes in the conclusions strong claims about the implications of the results. Senior colleague is not comfortable with these claims, he thinks they are most likely true, but the evidence in the paper is not strong enough to make these claims just yet. The professor states that removing these claims, as his colleague suggests, will significantly harm the chances of the paper to be published.

If the paper were rejected, the slow publishing pace of the field would mean a delay of perhaps even a year before the paper could resubmitted. As the quibble about the publishing schedule continues, Tao has a problem: he has to graduate within a year and needs the article to complete his thesis. He does not need a quality publication, and can not afford to delay for more than a year.

+ Conflict of interest

- Authors should always disclose all financial (funding) and other sources of support, which may have influenced their work

+ Review process

- Gatekeeping for research quality
- Competing interest
  - protecting own research
  - time priorities
- Double or single blind process
- Open review process
  - reviewer known
  - reviews published
  - review scientific credibility, ethics

+ Open access

- Open access journals = anyone can access published research for free
  - Complete
  - Delayed
  - Hybrid
    - Author pays
    - Some articles
- Open Data/Research – sharing on the go
  - privacy concerns

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Open science – case of publishing raw data

- What are the pros and cons of Sofia's plan?
- What difference does it make if this is approached from a communitarian or individual perspective?
- From a virtue perspective, how would you view Sofia and Marc?
- What do you think Sofia should do?

Sofia is a PhD student in bio-science and she uses detailed and expensive images of the brain. She has worked on the methodology for the last two years. She now feels that the methodology is mature enough to write publications. She is supervised by Marc, who is very well known with a "perfect track record" in his field and he is the leader in the current research project.

A couple of weeks ago Sofia understood in a discussion with Marc, that her principles are very different from his. Sofia believes that raw data obtained from experiments is also implicitly a research result. Marc has a totally opposite view – as conducting human experiments is very expensive and time-consuming, he is not interested in wasting money and time. For him data = publications and a normal human being would not give his publications away just for nothing. He also has plans to use this data as foundation for the next 5-year funding application.

Sofia always hoped that the images of this study will get public. She designed the study so that it has a lot of potential for analyzing tons of different things. Her "secret plan" was that by publishing the raw data of her study, she would get some "pioneer credit", as publishing raw data is not a common practice. Also if the data is as interesting, as she believes it to be – the publication might get a reasonable amount of citations.

Feedback

1. Most important/interesting thing I learnt today?
2. How I will apply this learning
3. Feedback to Henriikka and suggestions for future improvement
4. Any other comments or suggestions