

# Research data management and ethics

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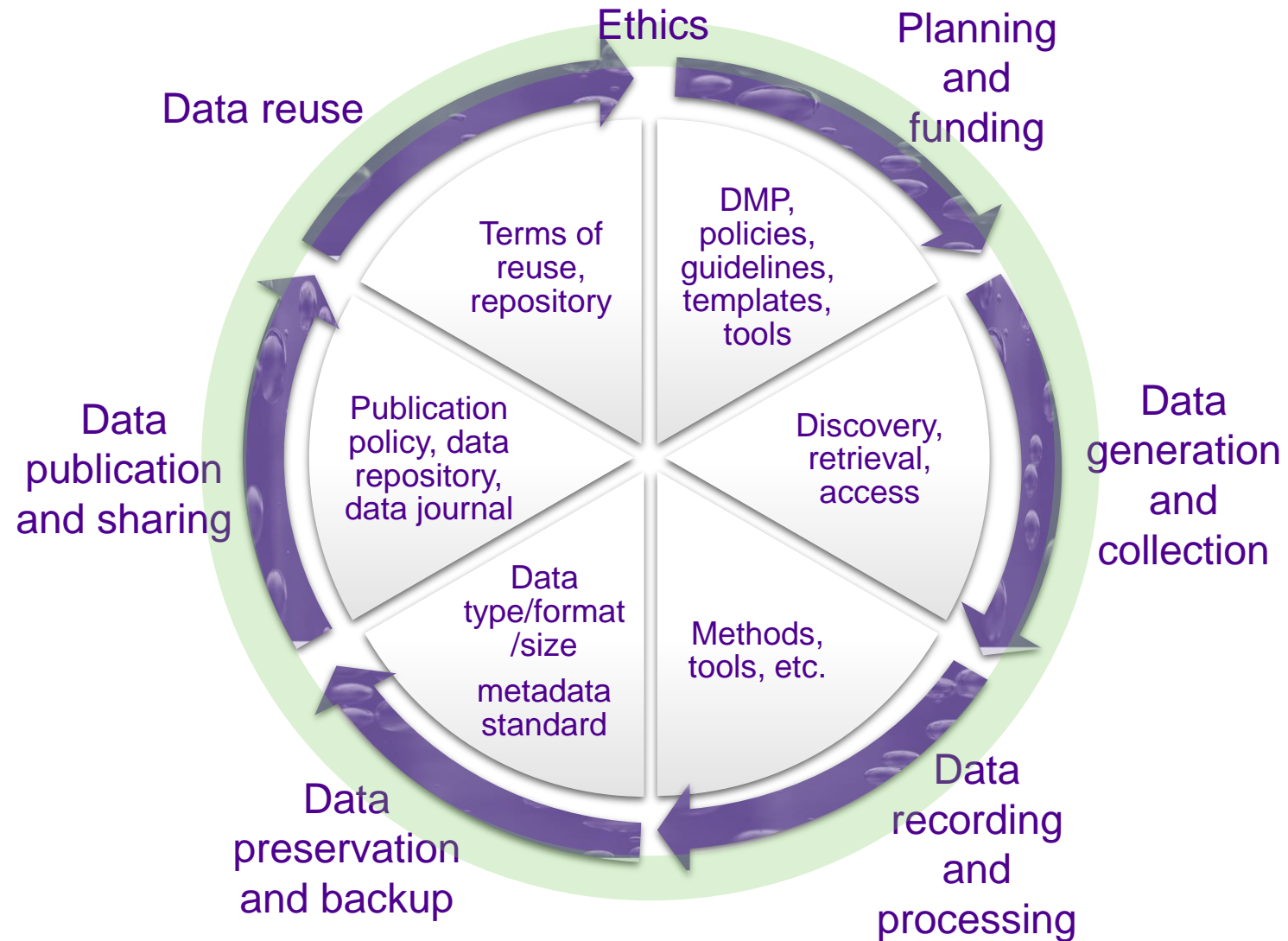
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# RESEARCH DATA LIFECYCLE



# REASONS TO MANAGE YOUR DATA

- Research data management is a part of good scientific practice
  - Secures responsible and ethical research
  - Helps to validate research results
  - Transparency, reliability, replicability and verifiability of research
- Part of the researcher skills: good data management as a default
  - Reflects your managerial skills as a project leader
  - Shows that you understand that your data has value
- Enables the opening and sharing of data
  - Visibility and findability of the data and the researcher (data citation, merit)
  - Reduces overlapping work and makes reusing the data easier
- Eases the workflow and helps you to do better research
  - Organising, preserving and finding data becomes easier
  - Saves time and reduces risks
  - You will meet your funder's requirements (EU, the Academy of Finland)
  - Write a data management plan

More information: <https://libguides.tuni.fi/friendly.php?s=researchdatamanagement>

# DATA MANAGEMENT PLAN

- Helps to identify ethical considerations during the data lifecycle
- National policy on Open research data and method, policy component 1: Open access to research data
  - *No later than 2022, higher education institutions will offer instructions, practices and training in the field of data management planning for students, researchers and other personnel.*
  - *No later than 2024, higher education institutions will ensure that thesis supervisors are able to evaluate and comment on data management plans as part of their supervisory work.*
  - <https://avointiede.fi/sites/default/files/2021-05/Open%20research%20data%20and%20methods%2C%20policy%20component%201.pdf>
- Finnish DMP evaluation guidance
  - can be used when evaluating a DMP by students, peer reviewing or when evaluation is conducted by a data steward
  - <https://zenodo.org/record/4729832#.YJPSxrUzY2w>



# ETHICAL CONSIDERATIONS

Kuva [https://pixabay.com/fi/users/darkmoonart\\_de-1664300/?utm\\_source=link-attribution&utm\\_medium=referral&utm\\_campaign=image&utm\\_content=3408928](https://pixabay.com/fi/users/darkmoonart_de-1664300/?utm_source=link-attribution&utm_medium=referral&utm_campaign=image&utm_content=3408928) DarkmoonArt\_de [https://pixabay.com/fi/?utm\\_source=link-attribution&utm\\_medium=referral&utm\\_campaign=image&utm\\_content=3408928](https://pixabay.com/fi/?utm_source=link-attribution&utm_medium=referral&utm_campaign=image&utm_content=3408928) Pixabaystä

# CONSIDER THESE

- Will you be collecting personal data?
- Do you need an ethical review?
- Do you need a permission to carry out research?
- Copyrights, user rights, agreements
- Data anonymisation
- Responsible sharing of research data

# PERSONAL DATA

- Identify personal data, assess the need to collect and process personal data
- Follow EU's General Data Protection legislation
  - Comply with data protection principles and choose a lawful basis for collecting data
  - Do not collect personal data you do not need
  - Limit the storage time of personal data
  - Protect the participants by anonymising the data
  - Always remember data protection and data security at every step
- Inform the research participants
  - Information sheet: the topic of the research, what the research is about
- [Consent to participate in the research](#) and the permission for data reuse
- Privacy notice: how personal data is being processed
- Risk assessment
- Data protection at Tampere Universities:  
<https://www.tuni.fi/en/research/responsible-research/data-protection>

# ETHICAL REVIEW

## MEDICAL SCIENCES

- Ethical review as a default
- The ethics committees of hospital districts are responsible for ethical pre-evaluation of medical research

## IN HUMAN SCIENCES

- The research deviates from the principle of informed consent
- the research involves intervening in the physical integrity of research participants,
- The focus of the research is on minors under the age of 15, without separate consent from a parent or carer
- Research that exposes participants to exceptionally strong stimuli
- Research that involves a risk of causing mental harm that exceeds the limits of normal daily life
- Conducting the research could involve a threat to the safety of participants or researchers or their family members or others closest to them

The Finnish National Board on Research Integrity (TENK): [https://tenk.fi/sites/default/files/2021-01/Ethical\\_review\\_in\\_human\\_sciences\\_2020.pdf](https://tenk.fi/sites/default/files/2021-01/Ethical_review_in_human_sciences_2020.pdf)

TUNI: <https://www.tuni.fi/en/research/responsible-research/ethical-reviews-in-human-sciences>



# ETHICAL REVIEW

- The Ethics Committee of the Tampere Region oversees the ethical reviews of proposed non-medical research to be carried out in the region's universities, higher education institutions and research organisations
- Send your request for statement
  - The Ethics Committee **does not grant institutional permissions to conduct a study** but only issues statements of the ethical acceptability of a proposed study
- Required documents
  - 1) A cover letter, 2) the research proposal, 3) *an assessment of the ethical considerations by the principal investigator*, 4) risk assessment, 5) impact assessment, 6) subject information sheet and privacy notice, 7) the consent form, 8) other material provided to research subjects, 9) a data management plan

The Research Data Services assist on data management plan, privacy notice, risk assessment: [researchdata@tuni.fi](mailto:researchdata@tuni.fi)

# PERMISSION TO CARRY OUT RESEARCH

- If your research or thesis topic concerns the activities of an organisation, a company or the public sector (such as a city or municipality) or you are planning to interview their staff, you must apply for research permission from the company, city or other organisation
- When do I need a permission from the University?
  - Research permissions are generally granted for scientific studies, theses or development projects that are related to the operations and development of Tampere University. If your research concerns University-level activities, the Vice President may grant you the research permission
  - Deans grant the permission for studies and thesis projects that concern an individual faculty
  - If you need to access to personal data stored in the University's databases for research purposes, you must submit a special form to request access to the data
- Read more: <https://www.tuni.fi/en/research/procedure-managing-research-permissions-tampere-university>

# AGREEMENTS AND RIGHTS

## Agreeing on data

- Before the research project starts, the research project or group should agree on the rights, authorship principles, responsibilities and obligations of all parties, as well as on issues related to the storage and access rights to the materials.
- Helps to avoid disputes and conflict of interest
- Show responsible conduct of research and good data management skills

## Copyright

- Research material can include both copyrighted and non-copyrighted parts, for example, photos, drawings, videos, writings produced by research participants themselves
- If research data includes materials produced by others than researchers (for example, photographs or poems), agreements about their use must be made separately.
- It is possible to make an agreement about copyright transfer-> in principle the creator holds the right
- Use of copy-righted material created by others than research participants
  - preferably obtain written permission to use the materials

# TERMS OF USE

- When a student collects the data:
  - Independently → a student dictates how data is used.
  - As part of a research group → a student makes an agreement on data use with a research group
  - Data is collected for a company → a student makes an agreement on data use with a company
- When a student uses
  - supervisor's or other researcher's data → a student makes an agreement on data use with the supervisor
  - data obtained elsewhere, for example FSD, THL → complies with terms defined in a research permit and terms of use.
- Make use of a mutual non-disclosure agreement, when you give confidential data to a student.
  - Ensure, that you have a right to give data to a student.
  - Agreement template (in intranet): <https://intra.tuni.fi/en/handbook?page=2185>

# ANONYMISATION

- Protecting the privacy of research subjects is one of the most important principles of research integrity.
- The identity of research subjects may be made public if research subjects are experts or public figures.
- The same applies if research subjects produce e.g. written works (poetry or similar) and including their name in research publications is expressly agreed with the research subjects concerned.
- The necessity of background information about the research subjects is naturally determined by the needs of the research itself and it is essential to be consistent in selecting it.
- Care should be taken that the necessary information for the analysis is conveyed to the reader, and on the other, it should be ensured that the anonymity of research subjects and any other people they mention is safeguarded.

Arja Kuula-Luumi: <https://vastuullinentiede.fi/en/reuse/safeguard-anonymity-research-subjects>

Data management guidelines: <https://www.fsd.tuni.fi/en/services/data-management-guidelines/anonymisation-and-identifiers/>

# OPENING AND Sharing DATA

# RESPONSIBLE SHARING

## OPEN SCIENCE – RESPONSIBILITY

- Openness of research data: Ethical principles for research with human participants (Finnish National Board on Research Integrity TENK guidelines 2019)
  - Preserving the data gathered in research to make it available to other researchers is one way of ensuring open science.
  - The degree of openness is determined on the basis of the data in question, taking into account both freedom of science and freedom of expression, and the protection of personal data and privacy
  - Opening the research data must be considered already at the planning stage of the research
- The balance between openness and responsibility → always consider and plan carefully what you can and what you cannot share
  - The role of good data management is emphasised
  - “As open as possible, as closed as necessary”
- The importance of metadata → enables data to be used and understood by others
  - You can publish metadata e.g. in [Etsin](#)

# WHERE TO SHARE?

Prefer discipline-specific archives or repositories and follow the instructions of your funder when choosing a reliable archive. Remember that publishers might have requirements for opening data.

- |   |   |  |
|---|---|--|
| <b>Data archive or a repository</b>         | } | <ul style="list-style-type: none"> <li>• Choose a reliable archive (e.g. Core Trust Seal certified, such as FSD)</li> <li>• Remember, there are archives and "archives"</li> </ul>   |
| <b>Data journal</b>                         | } | <ul style="list-style-type: none"> <li>• A data journal publishes articles that focus on data quality or data collection methods, etc.</li> <li>• Springer Nature <a href="#"><u>Scientific Data</u></a></li> <li>• Elsevier <a href="#"><u>Data in Brief</u></a></li> <li>• Brill <a href="#"><u>Research Data Journal for the Humanities and Social Sciences</u></a></li> </ul>  |
| <b>Peer-reviewed scientific publication</b> | } | <ul style="list-style-type: none"> <li>• Many scientific publications require or recommend opening the data in a data archive or repository:             <ul style="list-style-type: none"> <li>• increases the transparency or research</li> <li>• makes it easier to verify results</li> </ul> </li> <li>• If you have to pay in order to get the article and the underlying data, the premise of open science is not supported</li> </ul> |



# CITING RESEARCH DATA

- Accurate citing is an essential part of research ethics and good scientific practise
  - "Researchers take due account of other researchers' work and achievements, respecting their work and giving due credit and weight to their achievements in carrying out their own research and publishing its results." (*Good scientific practice and procedures for handling misconduct and fraud in science*)
- Always cite your own research data if it is openly available for reuse
  - Other people reusing your data can cite it → more citations, more impact
  - Increases the visibility and findability of your data
- Always cite the research data that you have been using!
  - Gives credit to the original author
  - Other people can find the data you have used
  - Use "cite as" provided by the archive or repository

# FAIR DATA

## = FINDABLE, ACCESSIBLE, INTEROPERABLE, RE-USABLE

- The principles emphasise the reuse of data and good data management
- Information, publications and data, metadata and methods used and produced in the project are easily available for reuse
- Data can be FAIR even though there are limitations in its accessibility
- The principles make sure that data can be found, understood and reused

## FAIR AS AN ETHICAL ISSUE?

- FAIR is connected to the skills that enhance the reliability of research
  - the awareness of the FAIR principles, and the ability to apply these to the stewardship of research outputs → data reliability
  - Responsible conduct of research
  - Source: SPARC Europe. *Research Integrity through Open Science and FAIR Data 2019*:  
[https://sparceurope.org/wp-content/uploads/dlm\\_uploads/2019/03/SPARCEurope\\_ResearchIntegrityBrief.pdf](https://sparceurope.org/wp-content/uploads/dlm_uploads/2019/03/SPARCEurope_ResearchIntegrityBrief.pdf)

# FAIR DATA SHARING CHECKLIST

- Consider already during the planning phase of your research where you will publish your data
- Use formats that are open and suitable for long-term preservation
- Create metadata
- Check that copyright or ownership does not prevent sharing data
- Define terms of reuse by a license
- Get a Persistent Identifier to your data
- Open and share your data in a data archive or data journal
- Publish metadata

(How FAIR are your data? DOI:[10.5281/zenodo.1065990](https://doi.org/10.5281/zenodo.1065990))

- Sharing personal data:
  - Can only be shared anonymised (pseudonymised data contains personal data)
  - Basis for processing of personal data might limit reuse (for example no consent)
  - Choose a certified data archive
  - If you cannot publish the data, publish metadata



# Research Data Services

[tuni.fi/researchdata](https://tuni.fi/researchdata)  
[researchdata@tuni.fi](mailto:researchdata@tuni.fi)

Research Data Services assist staff and students in matters related to research data management.

See our trainings: <https://research.tuni.fi/researchdata/trainings/>

# LINKS AND GUIDES

- [Research Data Management -guide](#) (Tampere University Library)
- [Data Management Guidelines](#) (Finnish Social Science Data Archive)
- [Data protection path of research](#) (Tampere University)
- [Quick guide to information security](#) (TAU intra)
- [Responsible conduct of research](#) (Tampere University)
- [\*Responsible conduct of research and procedures for handling allegations of misconduct in Finland\*](#) (Finnish Advisory Board on Research Ethics)
- [Ethical review in TAU](#)
  
- [Researcher's check list for publishing research data](#) (Responsible Research)
  
- Tampere Higher Education Community's policies
  - [Open Science and Research Policy](#)
  - [Data Protection Policy](#) (TAU intra)
  - [Information Security Policy](#)



# CONTACT

Data service

[researchdata@tuni.fi](mailto:researchdata@tuni.fi)