

# Research Data Management following FAIR principles

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Doctoral Seminar II, Faculty of Social Sciences, 3. 4. 2023



### **Content**

**17.00 - 18.30 Introduction** 

About ADP & CESSDA Getting to know each other

### **Data Management Planning**

- what is data
- FAIR principles
- what is RD life-cycle
- data discovery

18.30-18.45 Break

### 18.45-19.45 DMP & Wrap up

- research data management
- DMEG chapters (interactive)



### Aims of this lecture

- 1) the PhD students *understand the concepts of open science*: "open data", "FAIR principles", "research data lifecycle", "research data management", "data publication", "data citation"
- 2) students are *able to prepare DMP* adopted for social sciences



CESSDA Training Team (2017 - 2022). CESSDA Data Management Expert Guide. Bergen, Norway: CESSDA ERIC. Retrieved from https://dmeg.cessda.eu/



### Who must submit a DMP and when?

Univerza v Ljubljani

### **Doctoral School University of Ljubljana**



A DMP must be submitted by generations of doctoral students enrolled in academic year 2021/2022 and thereafter.

The handling of research data is regulated in the Rules and Regulations for Doctoral Studies at UL (Article 50). (<a href="https://www.uni-lj.si/doctoral school/rules/">https://www.uni-lj.si/doctoral school/rules/</a>)

#### The doctoral student submits a draft DMP

- (1) upon registering the doctoral dissertation proposal (see Article 36 of the Rules),
- (2) an updated version of the DMP upon presentation of the research results (see Article 43 of the Rules)
- (3) upon submission of the dissertation (see Article 45 of the Rules).

https://www.uni-lj.si/doctoral school/research data management/questions



### Where will data be stored?

Univerza v Ljubljani

### **Doctoral School University of Ljubljana**



Rules and Regulations for Doctoral Studies at the University of Ljubljana (PDF) in force from 1 October 2021 (https://www.uni-lj.si/doctoral\_school/rules/)

The doctoral student submits research data to a data repository, data centre or research data archive. Preferably, research data should be sent to the disciplinary national or international data centres intended for specific types of

**data.** In the fields where there are (still) no disciplinary data centres, the data is submitted to a general data repository or the Repository of the University of Ljubljana. The supervisor advises the doctoral student about the most appropriate repository for their field. It is also important for the doctoral student to consult in advance with the selected data centre regarding the possibilities and conditions for data publishing, as the centre may have its own requirements that the UL DMP has not taken into account.

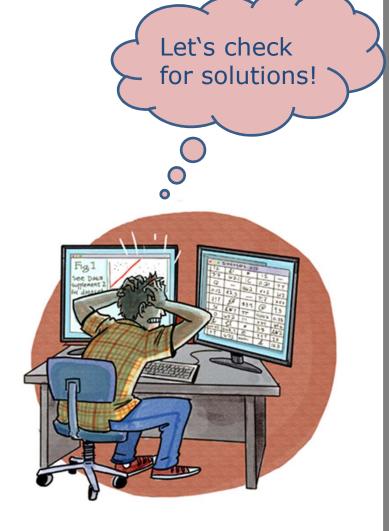
Big data can be stored in the data archive on the Vega supercomputer via the Repository of the University of Ljubljana. For life sciences, the Slovenian hub ELIXIR Slovenia has set up a research infrastructure that enables the storage of research data, calculations and other functionalities. The national data centre Social Science Data Archive is available for social sciences and certain types of humanities data. Language-related disciplines can make use of CLARIN.SI – the Slovenian research infrastructure for linguistic resources and technology.



**Real life experience from ADP** 

Challenging situations before publishing data

- 1) I will finalize my thesis next week. I need to publish my data.
- 2) Data access agreement doesn't allow me to share the variables.
- 3) I promised participants to use my data only for my PhD thesis.





# Slovenian Social Science Data Archives (ADP-Arhiv družboslovnih podatkov)



- Founded in 1997 → 25th anniversary
- Slovenian national research data centre for social sciences
- Member of CESSDA ERIC since 2017
- Status of a **trust-worthy archive** (CoreTrustSeal since 2018)
- involved in EU and national projects







### **ADP's mission**

**To ensure** and **promote** *sustainable services* of **ingest, storage and access** to *quality research data from the field of Slovenian social sciences* and broader, with *potential for secondary analysis*.

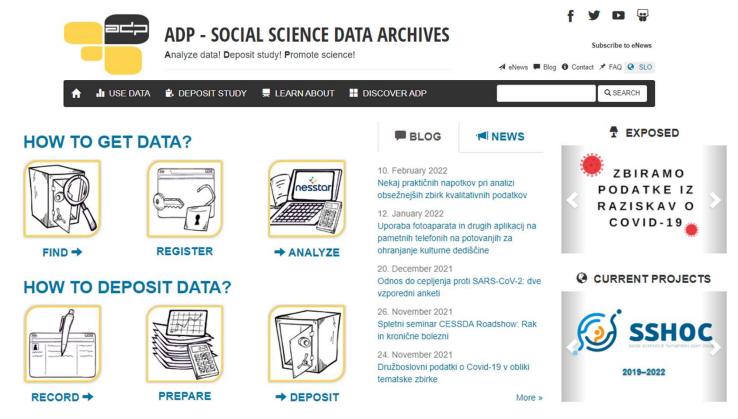
#### Main services:

- Acquiring important research data from a wide range of social sciences
- Appraisal of submitted research data and their selection for deposit Ingesting and processing research data and other documentation, together with the creation of metadata
- Long-term digital preservation (AIP), access and re-use for scientific, educational and other purposes (DIP)
- **Training** researchers on:
  - research data management
  - re-use of research data
- **Promotion** of open data and open science (students, librarians, journals, citizens...)

https://www.adp.fdv.uni-lj.si/eng/spoznaj/adp/poslanstvo/



### Slovenian national research data centre for social sciences



https://www.adp.fdv.uni-lj.si/eng/

#### **QUICK FACTS**

- 775 social science studies research data accessible in a data catalogue + 150 metadata only
- **1000 users registered per year** (90 % education, 10 % scientific/research purpose)
- 500 units of research data reused for detailed secondary-analysis per year



### **Consortium of European Social Science Data Archives (CESSDA)**



"Member countries seek to increase the scientific excellence and efficacy of European research in the social sciences"

### **Key tasks:**

Developing **standards and best practices** around the management
and archiving of social science data. **Facilitating access** to important data
resources

Work done by **developing tools, training and co-ordinating network**.

CESSDA data catalogue.
(https://datacatalogue.cessda.eu/)



# **Getting to know each other**



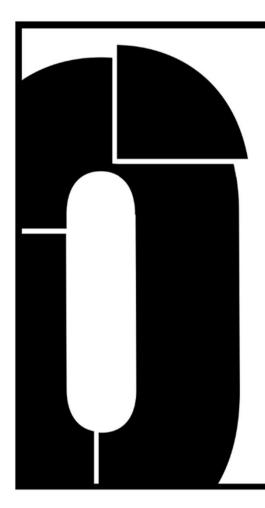
Savvas Stavrinos

All participants
Name, country, PHD topic
What kind of data you plan to (re)use?



### **Open Science Game: Open Up Your Research**

**INTRODUCING EMA** →



# **OPEN UP YOUR RESEARCH**

With this game, you follow Emma on her way to her PhD and decide for her to either practice science the traditional way or to follow a more open approach. While this game is intended to make researchers aware of the Open Science practices that could be applied in one's research workflow, not all of these practices might be equally suitable for all disciplines. What is more, it is not always easy to decide which parts of the research workflow should be open as there are many other factors at play that influence one's decision, such as funder requirements. Nevertheless, the game will give you an (albeit sometimes simplified) overview of the kind of open science practices that exist.

**START** 

https://www.openscience.uzh.ch/en/moreopenscience/game.html



# **Open Science Definition**



Open Science is the practice of science in such a way that others can collaborate and contribute, where research data, lab notes and other research processes are freely available, under terms that enable reuse, redistribution and reproduction of the research and its underlying data and methods.

(FOSTER Open Science)

https://www.fosteropenscience.eu/foster-taxonomy/open-science-definition



# **Open Data Definition**

Open Data are **online**, **free of cost**, **accessible** data that can be used, reused and distributed provided that the data source is attributed.

(FOSTER Open Science)

https://www.fosteropenscience.eu/taxonomy/term/6





### **Career benefits**

- Data publication may lead to increased visibility, reuse and citation and therefore recognition of scholarly work.
- Be aware that whenever you use the published data you are obliged to cite them. For more information see the paragraph on data citation.



### **Scientific progress**

 Benefits for the research itself (more robust), for the discipline and for science in general by enabling new collaborations, new data uses and establishing links to the next generation of researchers.

### **Norms**

 Norms of the project, research group, and/or discipline may determine whether a researcher is prone to publish his/her data. Overall, the openness of research data is at the heart of scientific ethics...

### **External drivers**

#### **Funders**

 Some funders consider costs related to data archiving and publication eligible and require a DMP.





### **External drivers**

#### **Publishers**

 Scientific journals are increasingly adopting data availability policies that advise or even request authors of manuscripts to make the research data, on which a manuscript is based, available.





# Horizon Europe mandate for DMP (



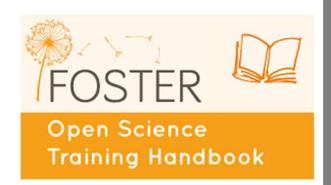
Proper Research Data Management (RDM) is mandatory for any Horizon Europe project generating or reusing research data. It is a key part of Horizon Europe's open science requirements.

In Horizon Europe, beneficiaries must manage the digital research data generated in the action ('data') responsibly, in line with the <u>FAIR principles</u>, and should at least do the following:

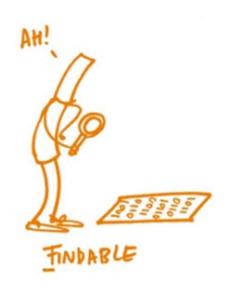
- Prepare a Data Management Plan (DMP) and keep it updated throughout the course of the project
- Deposit data in a trusted repository and provide open access to it ('as open as possible, as closed as necessary')
- Provide information (via the same repository) about any research output or any other tools and instruments needed to re-use or validate the data

Keep in mind that 'research data' is a very broad concept and certainly not limited to numerical/tabular data.



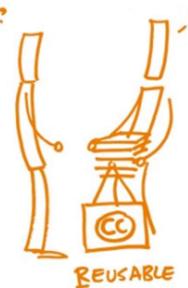




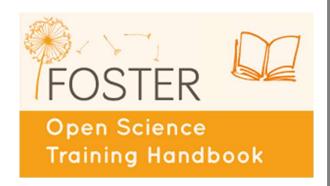












### **F**→ **FINDABLE**

It should be *easy to find the data and the metadata* for both humans and computers. Automatic and reliable discovery of datasets and services depends on machine-readable persistent identifiers (PIDs) and metadata.

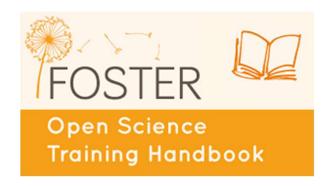




### *A* → Accessible

The (meta)data should be *retrievable by their identifier using a standardized and open communications protocol*, possibly including authentication and authorisation. Also, metadata should be available even when the data are no longer available.

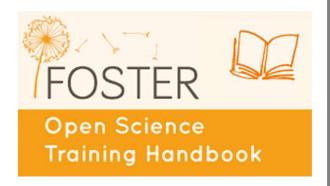




### *I* → Interoperable

The data should be able to be combined with and used with other data or tools. *The format of the data should therefore be open and interpretable for various tools,* including other data records. The concept of interoperability applies both at the data and metadata level. For instance, the (meta)data should use vocabularies that follow FAIR principles.





#### $R \rightarrow \text{Re-usable}$

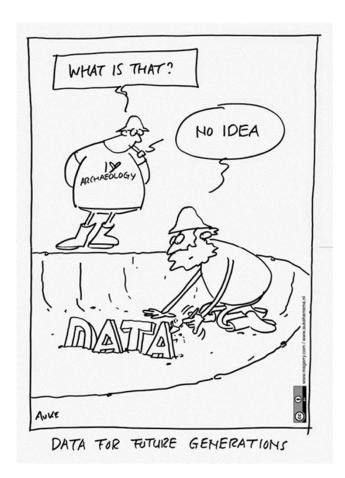
Ultimately, FAIR aims at optimizing the reuse of data. To achieve this, *metadata and data should be well-described so that they can be replicated and/or combined in different settings.* Also, the reuse of the (meta)data should be stated with (a) clear and accessible license(s).



### What is research data...

... primary sources that underpin scientific research and enable derivation of theoretical or applied findings.

(<u>Preparing research data for open access : guide for data producers</u>, 2015)





### What is research data...

The tangible forms this 'material' may take are e.g. "facts, observations, interviews, recordings, measurements, experiments, simulations, and software; numerical, descriptive and visual; raw, cleaned up and processed' (Van Berchum & Grootveld, 2017).



INFORMATION TYPES



### **Social Sciences**

### **Methods**

- Opinion polls
- Surveys
- Interviews
- Mass media, social media
- Laboratory experiments
- Field experiments
- Fieldwork notes
- Demographic records
- Census records
- Voting records
- Economic indicators

#### Sources

- Generate your own data
- Obtain it from other researchers
- Data repositories
- Existing records



### **Arts & Humanities**

### **Methods**

- Newspapers
- Photographs, video material
- Letters
- Diaries
- Literature: books, articles
- Church records
- Court records
- Maps
- Art artefacts
- Historic artefacts

#### Sources

- Libraries
- Archives
- Museums
   Public/corporate/govern
   ment records
- Data repositories



### Other materials wanted

Types of research materials

- ★ Materials of the study
- **★** Research results
- ★ Related publications



# Types of research materials

### Materials of the study

- Questionnaire
- Codebook
- Data processing program (syntax)
- Instructions for interviews
- Information for respondents
- Informed consent form

- ...





# **Types of research materials**

### Research results

- Research report
- Data summary
- Variable list
- Methodological information





# Types of research materials

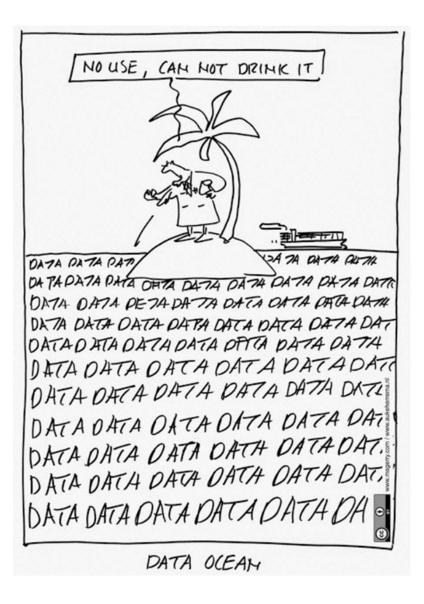
### Related publications

- Project's webpage
- Reports
- Scientific publications
- Related studies



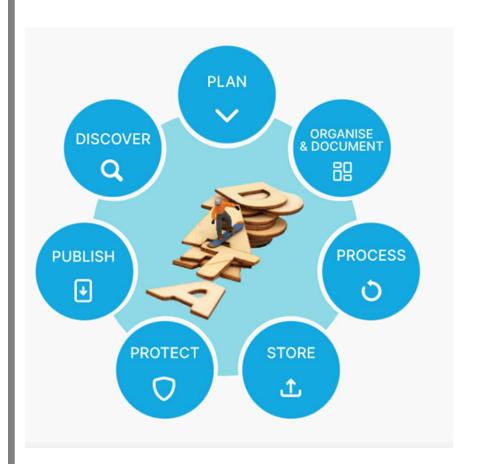


### Where to start?





### **Research Data Lifecycle**



The research data lifecycle is a model that illustrates the stages of data management and describes how data flow through a research project from start to finish."

(Princeton Research Data Service, https://researchdata.princeton.edu/researchlifecycle-guide)



### Research data management

... refers to how you *handle, organise, and structure* your research data throughout the research process.

... addresses also your plans for the data *after* the research is complete.

- A good data management strategy takes into account technical, organisational, structural, legal, ethical and sustainability aspects.
- Makes your research time-efficient, reproducible and safe as possible, if your data management is well thought through, structured, and documented.





### **Various DMPs**



#### **Disciplinary specific:**

- DMP for social sciences developed by CESSDA
- ♦You can view and download the checklist as pdf (CESSDA, 2019a) or editable form (CESSDA, 2019b)

(https://static-archive.cessda.eu/content/download/4302/48656/file/TTT\_DO\_DMPExpertGuide\_v1.3.pdf, https://www.cessda.eu/content/download/4304/48666/file/TTT\_DO\_DMPExpertGuideEditVersion\_v1.3.docx)

#### **Institutional:**

DMP for PhD students at University of Ljubljana

(https://www.uni-lj.si/study/doctoral\_school/research\_data\_management/)

• DMP for researchers at the Faculty of Social Sciences, UL

#### **General:**

- RDM Guidance for Researchers
- ❖Template for Data Management Plans
- ❖Guiding the Selection of a Trustworthy Repository
- RDM Guidance for Reviewers
- ❖Template for a Data Management Plan Evaluation Rubric

(https://scienceeurope.org/our-priorities/research-data/research-data-management/)



DOCTORAL SCHOOL

University of Ljubljana







# How to write a DMP



### **Guide developed by CESSDA Archives**

#### Training / Training Resources / Data Management Expert Guide



### Data Management Expert Guide

This guide is designed by European experts to help social science researchers make their research data Findable, Accessible, Interoperable and Reusable (FAIR).

You will be guided by different European experts who are - on a daily basis - busy ensuring long-term access to valuable social science datasets, available for discovery and reuse at one of the CESSDA social science data archives.

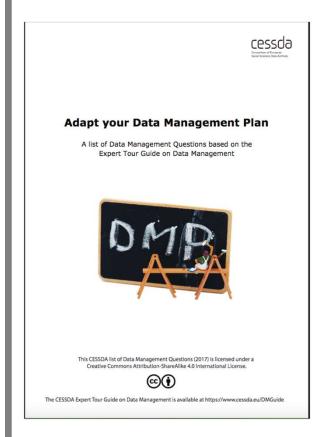
Self-study for researchers (15 hours of online content)

www.cessda.eu/DMEG

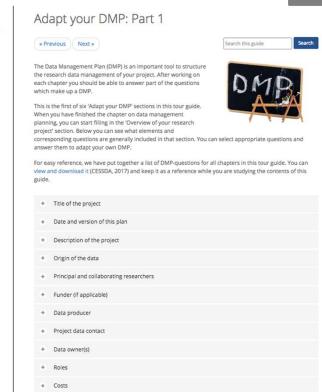


### **DMP** through chapters









CESSDA Training Team (2017 - 2020). CESSDA Data Management Expert Guide. Bergen, Norway: CESSDA ERIC. Retrieved from <a href="https://www.cessda.eu/DMEG">https://www.cessda.eu/DMEG</a>



### **Data life cycle**





CESSDA Training Team (2017 - 2022). CESSDA Data Management Expert Guide. Bergen, Norway: CESSDA ERIC. Retrieved from https://dmeg.cessda.eu/

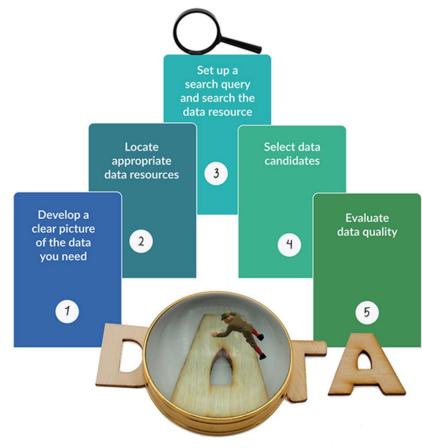


### 7. DISCOVER

### • Why

- Reuse data and save costs and time
- Compare results or make replication studies
- Reuse verified elements of research design
- Enhance data quality and foster innovation

### **Steps in data discovery**



CESSDA Training Team (2017 - 2020).



### Four ways we can use archived data

New analysis: one or multiple data sources e.g. combine micro and macro, just secondary data or secondary data combined with primary data

Replication

Use of study design/methodology (e.g. data collection tools (interview schedules & survey questions) or sampling strategies)

Teaching: Subject-based or research methods,

Datasets made for training purposes – e.g. easySHARE



### Types of data: level of analysis

Aggregate

about populations, groups, regions and countries constructed by combining information on lower level units (e.g. unemployment rate, fertility)

System level

characteristics of higher-level units such as the state or the political system e.g. electoral system (PR or singlemember districts) and member of EU

data on collective and cooperative actors such as commercial companies, organizations or political parties

data from individual units (often people or households) often from surveys, a census and administrative records

Microdata <

Meso data

Macro data



### Types of data: time

one-point of time (a snap shot) Cross-sectional usually information on multiple cases and variables cross-sectional surveys repeated with new samples Repeated cross data from the different samples allows analysis of sectional trends series of data points in time order (often equally spaced in time) Time series aggregate macro data are often time-series data. time points may come from sample surveys e.g. unemployment from labour force surveys follow the same units over time e.g. household panel Longitudinal studies collect information from a sample of households in regular 'waves'



### **Identifying data needs**

**Research Question** 

What is the ideal dataset for addressing this question?

(Compromises needed in reality)

### Key concepts

- Key features
- Multidimensional
- Groups of people
- Dependent/ independent variables

### How to operationalise?

(concepts can be complex and difficult to measure)

- What variables/multiple variables?
- Comparable/established measures (e.g. Schwarz Human Values)



### **Identifying data needs**

Population Geography Time Unit of analysis Study design and sample

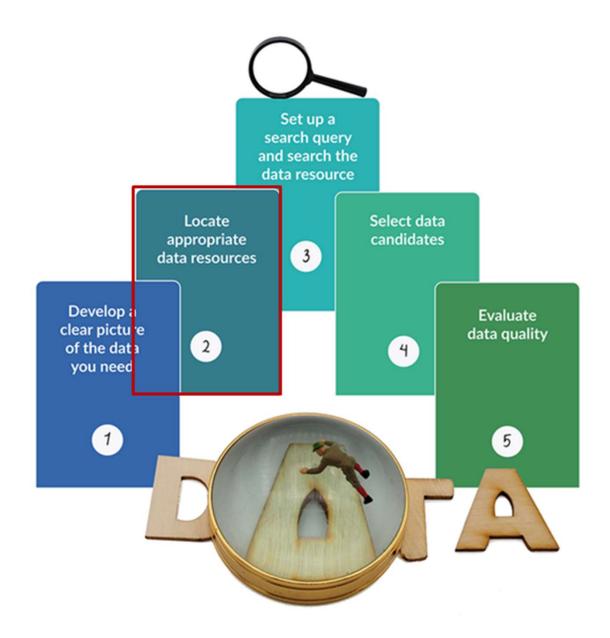
- Who are you concerned with?
- e.g. people/adults/EU citizens, migrants, local authorities

- · As most recent as possible
- a specific period (e.g. 2008-2018)
- · a long a period as possible
- data from people at multiple time points?

- Do you need representative (random) sample?
- Size (large sample for inferences about small groups)

- e.g. specific countries or regions,
- all EU countries or A10 countries (2004)
- individuals, households, regions or countries?







# DATA DISCOVERY Where do I start

### **Data repositories**

Digital archives collecting, preserving and displaying datasets, related documentation and metadata.

domain-specific trusted repositories (e.g. CESSDA archives) - focus on high-quality data with a potential for reuse

institutional research data repositories e.g. universities

general purpose repositories e.g. Zenodo, Figshare, Harvard Dataverse

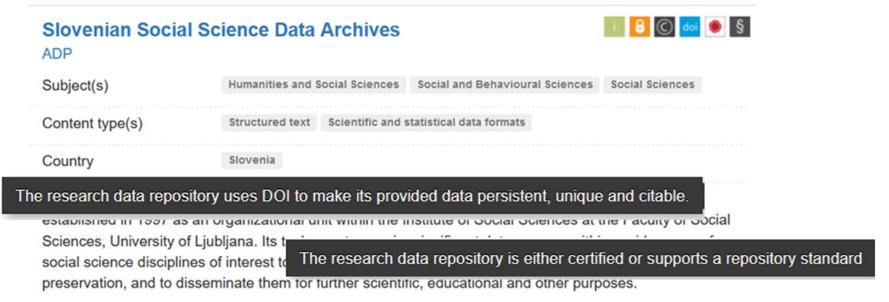


# DATA DISCOVERY Registries



Search: by subject, content type and country

For data archives with a certificate (a trusted repository), open access or for data sets that have a persistent identifier





### **European social science data archives**

### Data collections include:





- variation between archives
- quantitative data major source of individual level data
- qualitative
- outputs of
  - · major academic projects
  - government/policy
  - · small research teams
  - individual researchers
- recent and less recent data
- different languages











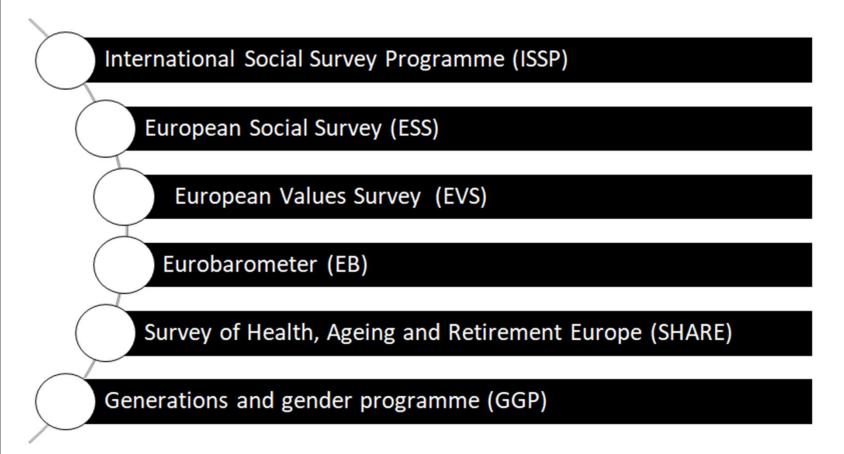




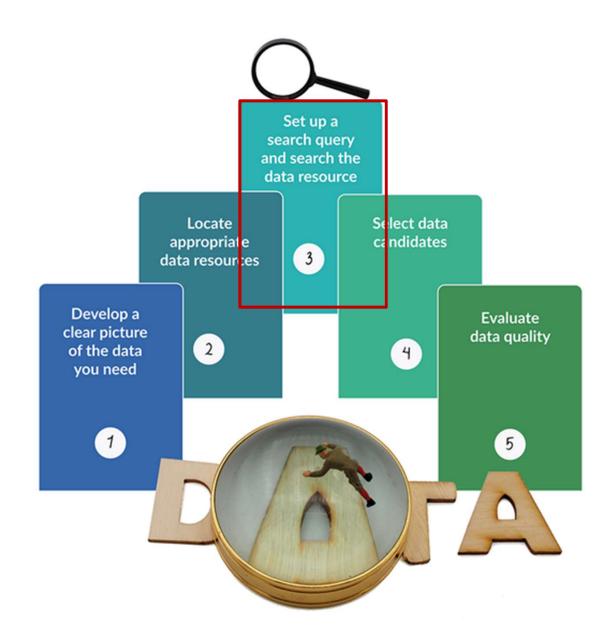


### **Cross-national studies**

International survey research programmes include many European countries

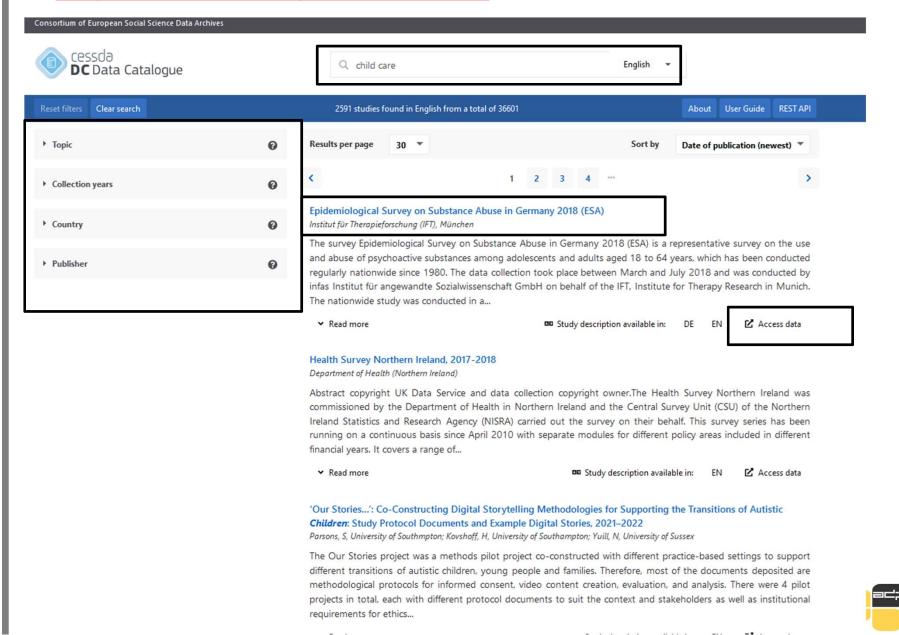






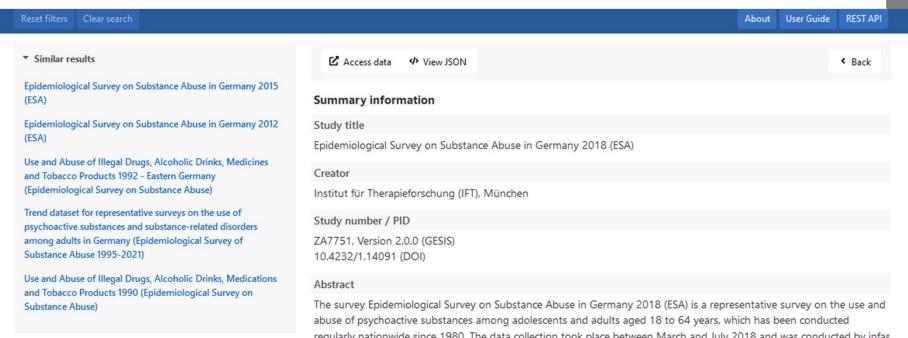
### **CESSDA Data Catalogue**

(https://datacatalogue.cessda.eu/)



### **CESSDA Data Catalogue**

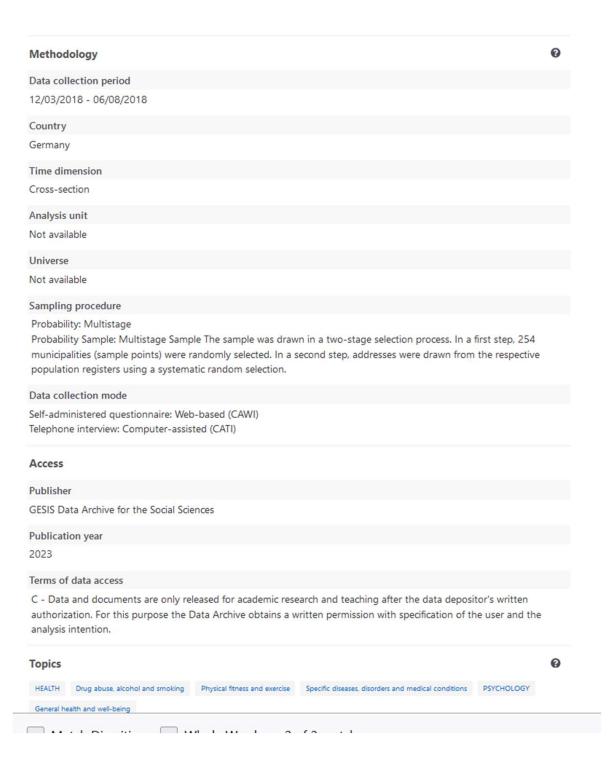
### (https://datacatalogue.cessda.eu/)



The survey Epidemiological Survey on Substance Abuse in Germany 2018 (ESA) is a representative survey on the use and abuse of psychoactive substances among adolescents and adults aged 18 to 64 years, which has been conducted regularly nationwide since 1980. The data collection took place between March and July 2018 and was conducted by infas Institut für angewandte Sozialwissenschaft GmbH on behalf of the IFT, Institute for Therapy Research in Munich. The nationwide study was conducted in a mixed-mode design as a standardised telephone survey (CATI: Computer Assisted Telephone Interview), as a written-postal survey (PAPSI: Paper and Pencil Self Interview) and as an online survey. The study is financially supported by the Federal Ministry of Health. The survey covered 30-day, 12-month and lifetime prevalence of tobacco use (tobacco products as well as shisha, heat-not-burn products and e-cigarettes), alcohol, illicit drugs and medicines. For conventional tobacco products, alcohol, selected illicit drugs (cannabis, cocaine and amphetamines) and medications (painkillers, sleeping pills and tranquillisers), additional diagnostic criteria were recorded with the written version of the Munich Composite International Diagnostic Interview (M-CIDI) for the period of the last twelve months. Furthermore, a series of socio-demographic data, the physical and mental state of health, nutritional behaviour, mental disorders as well as modules on the main topics of children from families with addiction problems, reasons for abstinence in the field of alcohol and the perception or knowledge of the health risk posed by alcohol were recorded.1. Physical and mental health status: self-assessment of health status; self-assessment of mental well-being; chronic illnesses; frequency of physical problems or pain without clear explanation, anxiety attack / panic attack, frequent worries, strong fears in social situations, strong fears of public places, means of transport or shops, strong.

▼ Read more



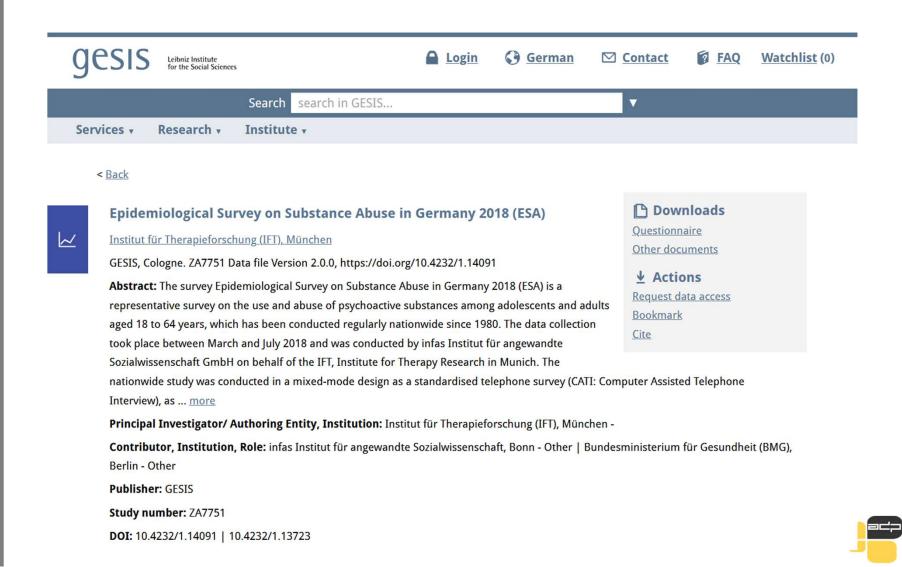




### **CESSDA Data Catalogue**

(https://datacatalogue.cessda.eu/)

### Direct link to Study via provider's catalogue



### **Survey presented in ADP**

ADP Catalogue / / evara17

# SURVEY ABOUT CYBERATTACK PROTECTION MOTIVATION IN HIGHER EDUCATION, 2017: RESEARCHERS AND PEDAGOGUES AT SLOVENIAN UNIVERSITIES

Study description

Data description

Accompanying Materials

Nesstar Browser

#### **Basic Study Information**

ADP - IDNo: EVARA17

DOI: https://doi.org/10.17898/ADP EVARA17 V1

Main author(s):

Mihelič, Anže Vrhovec, Simon

#### Data file producer:

Vrhovec, Simon, Univerza v Mariboru = University of Maribor, Fakulteta za varnostne vede = Faculty of Criminal Justice and Security (Ljubljana, Slovenia; 2021)

#### Funding agency:

Univerza v Mariboru = University of Maribor, Fakulteta za varnostne vede = Faculty of Criminal Justice and Security

#### **Study Content**

**Keywords ADP:** protection-motivation theory, higher education, university, cybersecurity, cyber threat, computer security, internet

#### Keywords ELSST.

CYBERCRIME, CYBERBULLYING, COMPUTER SECURITY, INTERNET

#### Topic Classification CESSDA

Conflict, security and peace

Information society

Topic Classification CERIF

Criminology

#### Topic Classification ADP

THREATS OF CYBERATTACKS

OF JEDITY OF OVDEDATTA ONO JODOANIZATION INDIVIDUALS



#### TERMS OF USE:



The data are unrestricted for academic purposes only and licensed under a Creative Commons Attribution + NonCommercial 4.0 International License



download data | study

#### DOCUMENTATION STATUS

description

4 - Full Study description and XML DDI Codebook Data description with full questions text.

#### CLASS OF THE STUDY

7 - studies that permits theoretical generalisations or relates on a practical problem, less influential

#### 1 How to CITE this study?

Mihelič, A. and Vrhovec, S. (2022). Survey about cyberattack protection motivation in higher education, 2017: Researchers and pedagogues at Slovenian universities [Data file]. Ljubljana: University of Ljubljana, Slovenian Social Science Data Archives. ADP - IDNo: EVARA17. https://doi.org/10.17898/ADP\_EVARA17\_V1





### **Survey presented in ADP (Nesstar Catalogue)**





### **International Social Survey Programme** (<u>ISSP</u>)

- annual programme (started in 1984)
- cross-national collaboration
- rotating thematic modules e.g.
  - Family and Changing Gender Roles: 1998, 199 2012
  - · Work Orientations: 1989, 1997, 2005, 2015
  - Social Inequality: 1987, 1992, 1999, 2009, 2019

## Family and Changing Gender Roles V

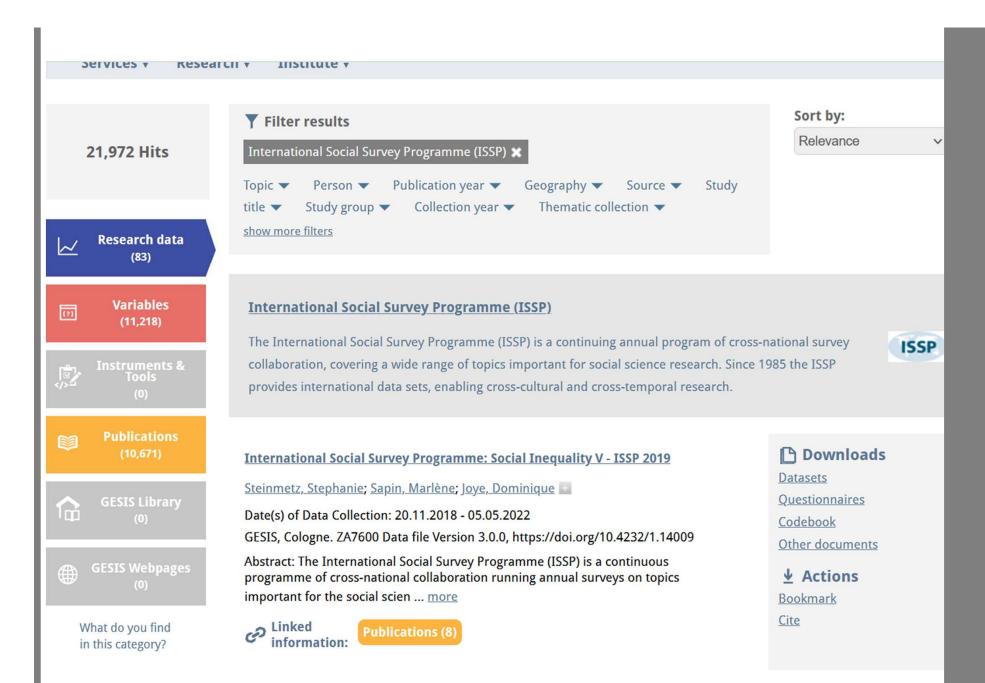
**ISSP 2022** 





**ISSP** 









Research data



**Variables** (547)



Instruments & Tools



**Publications** 





What do you find in this category?

show more filters

#### International Social Survey Programme (ISSP)

The International Social Survey Programme (ISSP) is a continuing annual program of cross-national survey collaboration, covering a wide range of topics important for social science research. Since 1985 the ISSP provides international data sets, enabling cross-cultural and cross-temporal research.



#### v40 - Q21 R child, mother attend church

Question text: When you were a child, how often did your mother attend religious services?

Study: ZA7570 - International Social Survey Programme: Religion IV - ISSP 2018



Research data (1)

#### Actions Bookmark

#### v41 - Q22 R child, father attend church

Question text: When you were a child, how often did your father attend religious services?

Study: ZA7570 - International Social Survey Programme: Religion IV - ISSP 2018



Research data (1)





### **European Social Survey (ESS)**

- A biennial cross-national survey (started in 2002)
- Highest methodological standard
- Freely available data for 41 countries (31 in R9 /2018)



#### **ESS Data Portal**

Search and download European Social Survey data for 18,000 questions and variables contained in 60 downloadable data files. This service is a work in progress, to improve your access to ESS data.

#### ESS data by round/year

- ESS round 10 2020. Democracy, Digital social contacts
- ESS round 9 2018. Timing of life, Justice and fairness
- ESS round 8 2016. Welfare attitudes, Attitudes to climate change
- ESS round 7 2014. Immigration, Social inequalities in health
- ESS round 6 2012. Personal wellbeing, Democracy
- ESS round 5 2010. Family work and wellbeing, Justice
- ESS round 4 2008. Welfare attitudes, Ageism
- ESS round 3 2006. Timing of life, Personal wellbeing
- ESS round 2 2004. Health and care, Economic morality, Family work and wellbeing
- ESS round 1 2002. Immigration, Citizen involvement

Probably most used / cited data.





Findings

Methodology

Data and Documentation

Learning

### Second release of Round 10 data now available

Round 10 data and poststratification weights are now available for 25 countries. Six of these countries used selfcompletion methods for the first time. MORE...



#### Latest news



13/03/23

Call for Papers: Digital social contacts



27/02/23

Comparing Australian and European attitudes



22/02/23

General Assembly meeting in March



09/02/23

Agreement with Korean General Social Survey



#### **ESS Data Portal**

European Social Survey (ESS) data and documentation is accessible through the new ESS Data Portal.

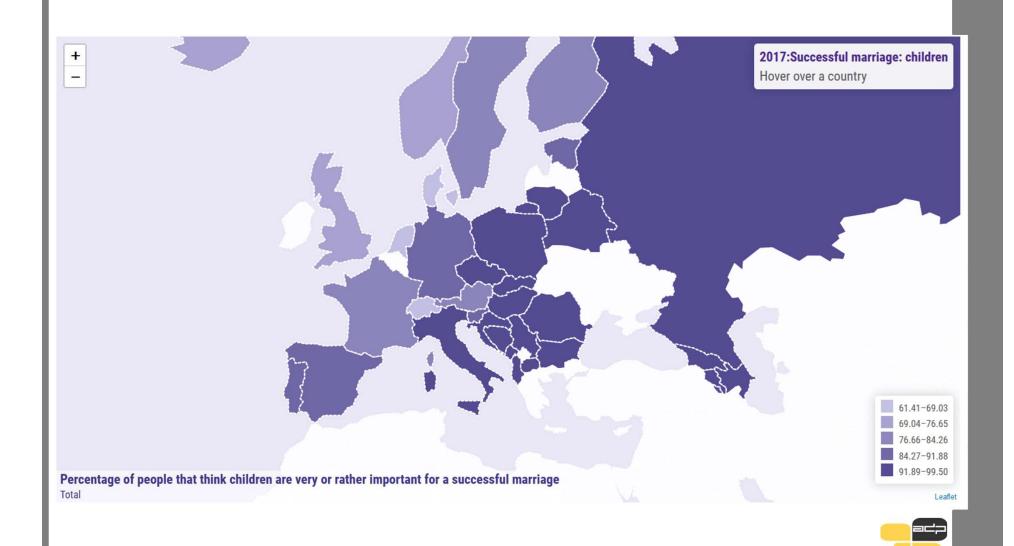


#### **Methodological Research**

The European Social Survey runs a programme of research to support and enhance the methodology that underpins the high standards it pursues in every aspect of survey design, data collection and archiving.

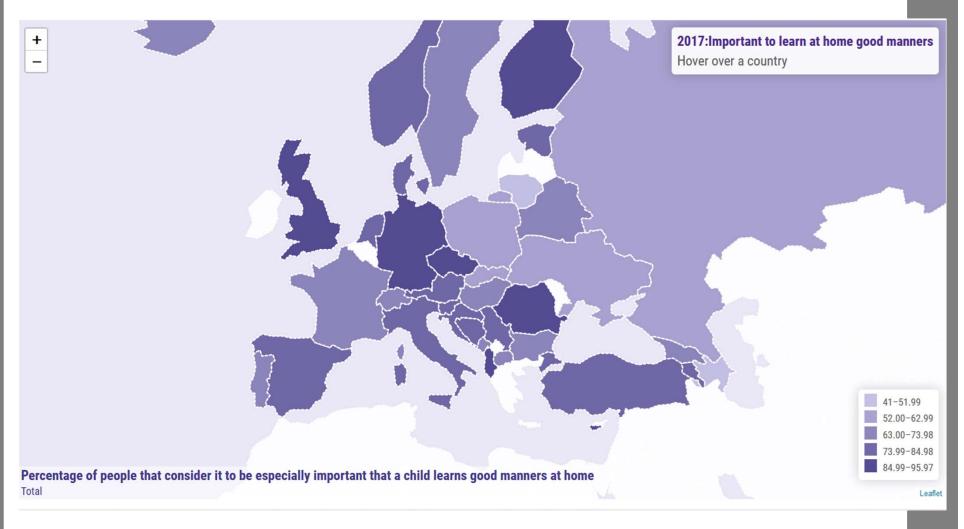
# **EUROPEAN VALUES STUDY (ATLAS)**





## **EUROPEAN VALUES STUDY (ATLAS)**







### **Examples: Longitudinal studies**

- Household panel studies
- Following households over time and asking questions on a broad range of topics such as household composition, employment, earnings, health, social and political participation and life-satisfaction



Understanding Society

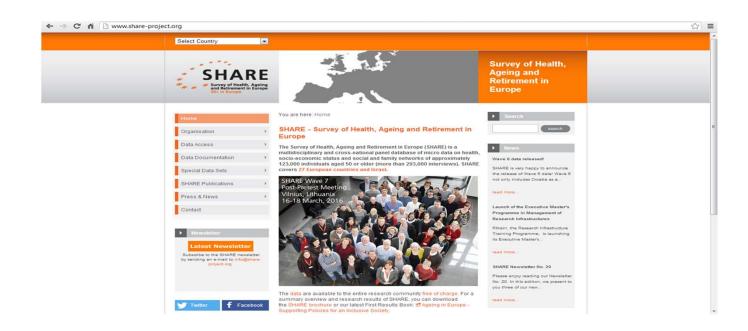
- German Socio-Economic Panel (SOEP)
- Understanding society (and the British Household Panel Study)
- Swiss Household Panel





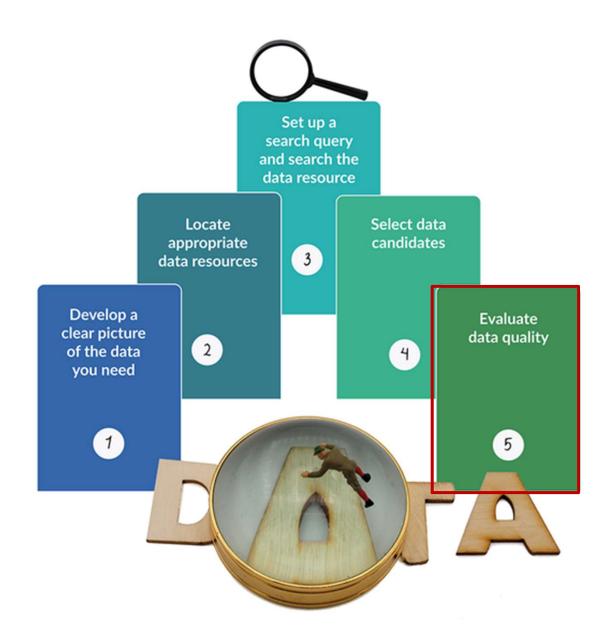
# **Survey of Health, Ageing and Retirement in Europe (SHARE)**

- longitudinal study
- more than 140,000 individuals aged 50
- 27+ European countries and Israel
- micro data on health, socio-economic status and social and family networks



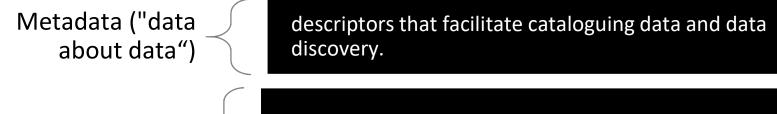






### **Metadata and documentation**

- Catalogue records (with links to documentation)
- Quality can vary
- Efforts to improve data documentation
- Check for helpdesks/training



**Documentation** 

user guides, survey questionnaires, interview schedules and fieldwork notes



### What to look for when assessing quality?

### Metadata ("data about data"):

- Why the data was created?
- What the dataset contains?
- How data was collected?
- Who collected the data and when?
- How was the data processed?
- Any manipulations done to the data?
- What quality assurance procedures were used?



CESSDA Training Working Group (2017)

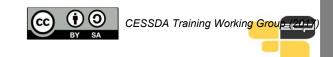


## **Accessing data**



Now finally, I've found some great data, how to I get it?

- Licenses
- Access process
- Getting started



## Data access arrangements 1



## Open data

any user, no registering (acknowledge source)



## Registration

- often with institutional user name and password
- may wait for user name or password
- register use of data



## Terms and conditions

- not trying to identify individuals, households or organisations
- not distributing data to others
- "data is for noncommercial use only" or for "use in research or teaching" only.



## Download

from catalogue (but sometimes complete a request form)



[ Images by CESSDA Training Working Group (2017)



## **Data access arrangements 2**

- Sometimes permission from the data owners required
- Sensitive or confidential data = more strict (and lengthy) process
- Some services operate a dedicated safe room or safe access service
- Access by users outside the country can be prohibited for confidential data
- Free (except for commercial use and supplementary services)

If you are unsure, ask the relevant data service for help.



## Protect: Different access levels available



**OPEN ACCESS** 

STANDARD ACCESS

ACCESS UNDER SPECIAL CONDITIONS

https://www.adp.fdv.uni-lj.si/eng/uporabi/kako/pravila/



**OPEN DATA** 

SAFEGUARDED DATA

CONTROLLED DATA (SECURE LAB)

https://ukdataservice.ac.uk/help/access-policy/types-of-data-access/



## And finally...remember to cite data

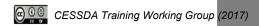
Why?

It gives credit the data creators It makes data easier to find

How?

Give enough information to locate the exact version of the data
Look for recommended citation
Use persistent identifiers (Digital Object Identifier - DOI)







## **ELEMENTS OF DATA CITATION**

- Author: Name(s) of each individual or organizational entity responsible for the creation of the dataset.
- Date of Publication: Year the dataset was published or disseminated.
- Title: Complete title of the dataset, including the edition or version number, if applicable.
- Publisher and/or Distributor: Organizational entity that makes the dataset available by archiving, producing, publishing, and/or distributing the dataset.

 Electronic Location or Identifier: Web address or unique, persistent, global identifier used to locate the dataset (such as a DOI). Append the date retrieved if the title and locator are not specific to the exact instance of the data you used.

These are the minimum elements required for dataset identification and retrieval. Fewer or additional elements may be requested by author guidelines or style manuals. Be sure to include as many elements as needed to precisely identify the dataset you have used.

Source: <u>IASSIST - Quick guide to Data Citation</u>

ISSP Research Group (2017): International Social Survey Programme: Work Orientations IV - ISSP 2015. GESIS Data Archive, Cologne. ZA6770 Data file Version 2.1.0, doi:10.4232/1.12848

Hafner-Fink, M. and Malešič, M. (2016). Slovenian Public Opinion 2015: Work Orientation (ISSP 2015), Role of Government (ISSP 2016), Mirror of public opinion and National Security Survey [Data file]. Ljubljana: University of Ljubljana, Social Science Data Archives. ADP – IDNO: SJM15. <a href="https://doi.org/10.17898/ADP\_SJM15\_V1">https://doi.org/10.17898/ADP\_SJM15\_V1</a>



## Data Management Expert Guide

This guide is designed by European experts to help social science researchers make their research data Findable, Accessible, Interoperable and Reusable (FAIR).

You will be guided by different European experts who are - on a daily basis - busy ensuring long-term access to valuable social science datasets, available for discovery and reuse at one of the CESSDA social science data archives.

Search this guide

Search

Data Management Expert Guide	~
1. Plan	>
2. Organise & Document	>
3. Process	>
4. Store	>
5. Protect	>
6. Archive & Publish	>
7. Discover	>

### Target audience and mission

This guide is written for social science researchers who are in an early stage of practising research data management. With this guide, CESSDA wants to contribute to professionalism in data management and increase the value of research data.

### Overview

If you follow the guide, you will travel through the research data lifecycle from planning, organising, documenting, processing, storing and protecting your data to sharing and publishing them. Taking the whole roundtrip will take you approximately 15 hours, however you can also hop on and off at any time.

www.cessda.eu/DMEG



## **Discovering data**

### Identification of needs

- Do you plan to use existing data for your research?
- What is the purpose for which you need the data?
- What do you want to learn from the data?
- What type of data do you need?

### Search for data

- Do you know where the data may be located?
- How do you plan to search for the data?

## Evaluation of data quality

- What is the minimal required quality of the data (in terms of origin, contents, scope, size, methods, etc.)?
- How do you plan to evaluate data quality (evaluation of metadata, tests, analysis, comparisons)?

## Gaining access to data

- What are the (expected) terms and conditions for data access and use?
- What is the (expected) process for gaining access to the data?
- What is the (expected) time-span of the process for gaining access to the data?
- What are the (expected) costs for data access and use?





## **Overview**

## Title of the project/study

## Date of this plan

## Description of the project

- What is the nature of the project?
- · What is the research question?
- What is the project time line?

## Origin of Data

- What kind of data will be used during the project?
- If you are reusing existing data: What is the scope, volume and format? How are different data sources integrated?
- If you are collecting new data can you clarify why this is necessary?

## Principal researchers

- Who are the main researchers involved?
- · What are their contact details?

## Collaborating researchers (if applicable)

· What are their contact details and their roles in the project?

## Funder (if applicable)

- If funding is granted, what is the reference number of the funding granted?
- What is the project's title in the funding contract?



## **Overview**

## Data producer

• Which organisation has the administrative responsibility for the data?

## Project data contact

Who can be contacted about the project during and after it has finished?

## Data owner(s)

- Which organisation(s) own(s) the data?
- If several organisations are involved, which organisation owns what data?

### Roles

- Who is responsible for updating the DMP and making sure that it's followed?
- Do project participants have any specific roles?
- What is the project time line?

### Costs and Resources

- Are there costs you need to consider to buy specific software or hardware?
- Are there costs you need to consider for storage and backup?
- Are potential expenses and resources for (preparing the data for) archiving covered?
- What resources will be dedicated to data management ensuring that data will be FAIR?





## Organising and documenting your data

### Data collection

- . How will the data be collected?
- Is specific software or hardware or staff required?
- . Who will be responsible for the data collection?
- During which period will the data be collected?
- Where will the data be collected?

### Data organisation

- · How will you organise your data?
- Will the data be organised in simple files or more complex databases?
- How will the data quality during the project be ensured?
- If data consists of many different file types (e.g. videos, text, photos), is it possible to structure the data in a logical way?

### Data type and size

- What type(s) of data will be collected?
- What is the scope, quantity and format of the material?
- After the project: What is the total amount of data collected (in MB/GB)?

### File format

- In what format will your data be?
- Does the format change from the original to the processed/final data?
- Will your (final) data be available in an open format?

### Folder structure and names

How will you structure and name your folders?

### File structure and names

· How will you structure and name your files?





## Organising and documenting your data

### Documentation

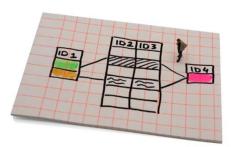
- What documentation will be created during the different phases of the project?
- How will the documentation be structured?

### Metadata

- What metadata will be provided with the collected/ generated/ reused data?
- How will metadata for each object be created?
- Is there any program that can be used to document the data?
- Can metadata be added directly into the files or will the metadata be produced in another program or document?

## Metadata standard (if applicable)

What metadata standard(s) will you use?







## ADP - SOCIAL SCIENCE DATA ARCHIVES

1

Analyze data! Deposit study! Promote science!



### **USE DATA**





# DISCOVER ADP

### DEPOSIT STUDY

Why Deposit?

Research Data Management Plan

Criteria for Acquisition

Procedure of Ingest

- 1. Record Study
- 2. Sign License Agreement
- 3. Prepare Data

Recommended Formats

- Prepare Study Description
- Check Submitted Materials
- 6. Deposit to ADP

Publication at ADP

Deposit Data on COVID-

Self-archiving

After Publication

Procedure of Ingest / / 3. Prepare Data

### 3. PREPARE DATA

Publication Year: 08, 04, 2017

Date of last inspection: 08. 04. 2017

Data files

Quantitative data

Qualitative data

It is recommended to start preparing data already in **the phase of study planning**. A good practice of preparing data for long-term storage and access includes the preparation of a **Data Management Plan**. By constantly documenting and taking into consideration good practices and standards you can expand the quality of your data.

### 1 The instructions on how to deposit data and documentation:

- Data: should be in a digital form, accompanied by appropriate descriptions (size of data file, format; in case of quantitative data: number of variables and units, meanings of codes for example, the data file ASCII, together with an SPSS program for reading the data file and with the labels of questions and codes, etc.; in case of qualitative data: description of content, context, process of creation of data file etc.).
- Questionnaire (if used in the study): in case your study used a questionnaire to collect the data, you need to include it in the submission package in its original format.
- Accompanying materials: it is advisable to include all other possible materials that would help
  in understanding the content of the submitted data files, such as a codebook, frequency lists,
  instructions for interviewers, information on how the study was conducted etc.
- Publications, based on the data: links to the publications (for example COBISS or URN / DOI).
- All of the files should be sent to the ADP through Cloud or given to us on an appropriate data file exchange media (for example CD-ROM, USB stick etc.).





## Processing your data

### Versioning

- What is your strategy concerning versioning your data files (and scripts) during the project?
- Will you create and/or follow a convention for versioning your data?
- Who will be responsible for securing that a "Masterfile" will be maintained, documented and versioned according to the project guidelines?
- How can different versions of a data file be distinguished?

### Interoperability

• Will you make use of established software and hardware? If not, how does the software and hardware you use relate to other research?

### If applicable:

- Will you make use of established terminologies/ontologies (i.e. structured controlled vocabularies) in the project? If not, how do your terminologies relate to established ones?
- . Which coding is used (if any)? Will you build on established coding schemes? If not, how does your coding relate to other research?

## **Data Quality**

- · How will data quality be evaluated?
- What data quality control measures will be used?



5 Service and sales workers

51 Personal service workers

511 Travel attendants, conductors and guid

512 Cooks

513 Waiters and bartenders

514 Hairdressers, beauticians and related

515 Building and housekeeping superviso

516 Other personal services workers

# File formats and data conversion

- Short-term data processing: file formats for operability
  - Proprietary vs. open formats
  - Export / portable formats
- Long-term data preservation
- Link to the table of Recommended file formats



Recommended Formats	Other Formats
Structured metadata description of the questionnaire (*.xml), according to the DDI or CAI software (*.bmi) *.rtf or outer textual format (*.doc, *.txt, etc.)	Printed version of the material *.pdf or other graphic format
SPSS (*.por, *.sav)  ASCI (*.txt metric or a data file, equipped with labels + computer-readable description of the data file with the names and categories of variables)	Other statistical packages (e.g. STATA, R, Microsoft Excel) Tables (*.xls etc.) Databases
*.pdf or another graphic format + printed version	*.rtf or other textual format (*.doc, *.txt, etc.)
Rich Text Format (.rtf)	Hypertext Mark-up Language (.html)
plain text, ASCII (.txt)	Common formats: MS Word (.doc/.docx)
eXtensible Mark-up Language (.xml) text according to an appropriate Document Type Definition (DTD) or schema	OpenDocument Text (.odt)
	Software specific formats: NUD*IST, Nvivo, ATLAS.ti in MAXQDA
	Structured metadata description of the questionnaire (*.xml), according to the DDI or CAI software (*.bmi)  *.rtf or outer textual format (*.doc, *.txt, etc.)  SPSS (*.por, *.sav)  ASCI (*.txt metric or a data file, equipped with labels + computerreadable description of the data file with the names and categories of variables)  *.pdf or another graphic format + printed version  Rich Text Format (.rtf)  plain text, ASCII (.bxt)  eXtensible Mark-up Language (.xml) text according to an appropriate Document Type Definition (DTD) or

https://www.adp.fdv.unilj.si/eng/deli/postopek/priprava/formati/



STORE

## Storing your data and metadata

## Storage

- How and where will the (meta)data be stored during the project?
- For how long will the (meta)data be stored?

## Backup

- How, where and at what intervals will the (meta)data be backed-up?
- How will data be recovered in the case of a (meta)data loss incident?

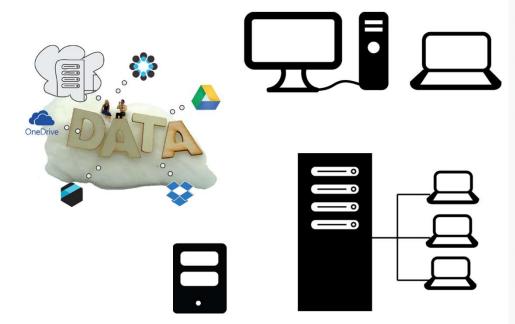
## Security

- How will sensitive (meta)data be protected? (if applicable)
- How will (meta)data access be managed?



## **Towards a Storage Strategy**

- A storage strategy contains
  - storage solutions and media
  - backup strategy and disaster recovery
  - data protection
- systematically implemented in a data management plan





### Passwords

### Encryption

Encryption is the process of encoding digital information in such a way that only authorised parties can view it. It's especially useful when you are transmitting personal or confidential data.

When you encrypt a file, the information it contains is "translated" to meaningless code. To translate this code back into meaningful information a key is required. Attacks with ransomware such as the Locky virus ("Locky", 2017) have demonstrated that recovering information from encrypted files without the key is near impossible. It is therefore extremely important that you do not lose the key to decrypt your files.

**Do:** encrypt confidential data, especially before transmitting it online, uploading it to the cloud, or transporting it on portable devices. When working in a team, make sure that the key can be accessed by everyone who needs to access it (but only those people).

**Do:** ensure that you do not lose the key to decrypt your files, e.g. by keeping it in a sealed envelope in a secure location such as a safe

### **Encryption software**

The UK Data Service (2017c) has compiled information on encryption and offers short video tutorials demonstrating the use of different software tools to encrypt data.

Commonly used encryption software includes:

BitLocker (2017)

Standard on selected editions of Windows. For the encryption of disk volumes and USB

## **Research Ethics**

- Disciplinary Code of Ethics (ASA)
- National Code of Ethics Soc. Assoc.
- <u>European Code of Research Integrity</u>
- University (<u>UNI-LJ</u>)
- Institute
- Funder Horizon Europe / other EC projects / grants
- Scientific Journal <-ethical committee approval before publishing</li>

Ethics are an integral part of a research project, from the conceptual stage of the research proposal to the end of a research project.





## Short definition "personal data" by GDPR

Personal data is any information that may be used to identify a person directly or indirectly

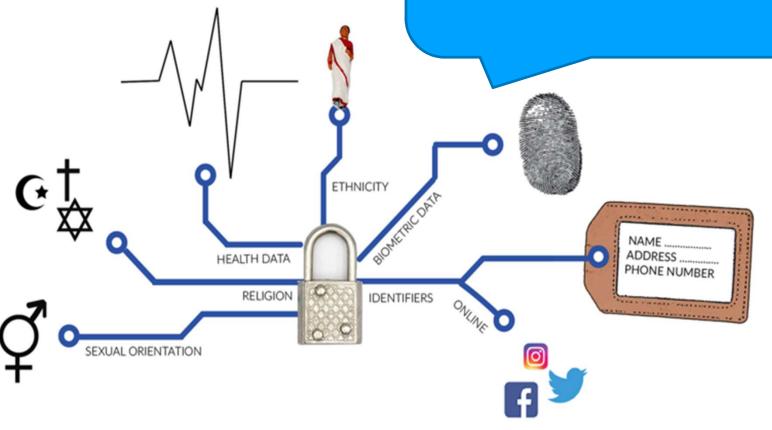
- Directly identifying personal data
  - through full name, personal identification number
- Indirectly identifying personal data
  - through a combination of background information





## Sensitive personal data

... "by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person" (GDPR, Article 4)





## **Grounds for Processing Personal Data**

## The General Data Protection Regulation (GDPR)

There are 6 grounds for the processing of personal data, and one of these must be present in order to process a data subject's personal data:

## 1. Consent of the data subject

- 2. Necessary for the performance of a contract
- 3. Legal obligation placed upon controller
- 4. Necessary to protect the vital interests of the data subject
- 5. Carried out in the public interest or is in the exercise of official authority
- 6. Legitimate interest pursued by controller



## **Informed consent**



Informed consent is the process by which a researcher discloses appropriate information about the research so that a participant may make a voluntary, informed choice to accept or refuse to cooperate.

Consent needs to be freely given, informed, unambiguous, specific and by a clear affirmative action that signifies agreement to the processing of personal data.

- Click to see examples of consent forms
  - ⊕ UK Data Archive
  - MRC Cognition and Brain Sciences Unit University of Cambridge
  - FORS (Swiss Centre of Expertise in the Social Sciences)

https://ukdataservice.ac.uk/learning-hub/research-data-management/ethical-issues/consent-for-data-sharing/https://www.cessda.eu/Training/Training-Resources/Library/Data-Management-Expert-Guide/5.-Protect/Informed-consent



## **Strategy for Sharing Data**

- Obtain informed consent, also for data sharing and preservation or curation
- Protect identities where needed e.g. anonymisation and not collecting personal data if not necessary
- Regulate access where needed (all or part of data) e.g. by group, use or time period
- Securely store and protect personal and sensitive data



## **DPIA - Data Protection Impact Assessment**

# The DPIA is a written document to be formally approved by the University and DPO.

- Sensitive data
- Consent not possible
- Long term processing / archiving
- Vulnerable group

More on DPIA in SI Ocena učinka v zvezi z varstvom podatkov

- Very identifiable data
- Combination of the above



## EDPB has set 9 criteria:

- -Sensitive data or data of a highly personal nature (4)
- -Data processed on a large scale(5)
- -Data concerning vulnerable data subjects (7)

Data Protection Impact Assessment (DPIA)



## **Protecting your data**

### Ethical review (if applicable)

- Does your project require approval by a local ethics committee?
- How will possible ethical issues be taken into account, and codes of conduct followed?

### Informed consent (if applicable)

- Do you require informed consent for your project?
- . If so, how will permission be obtained?
- How are consent files organised and stored?

### (sensitive) Personal data /confidential information (if applicable)

- How will access to (sensitive) personal data during the project be controlled?
- How will collaborators be granted access to the data in a secure way?
- If the research project is going to have data that includes confidential information or information that requires informed consent, is there a requirement to notify a privacy officer?
- Is there any confidential information within the material that requires special treatment and/or limits the access to it during/after the project?
- How will the material be protected during/after the project?
- How will permissions and restrictions be enforced?

### Intellectual property rights (IPR)/Copyrights

- Are there IPR or copyright issues to consider?
- · Will permission be needed to collect/reuse the data?
- Will these rights be transferred to another organisation for data distribution and archiving?

### Agreements (if applicable)

· What are the agreements with other stakeholders?

### Restrictions (if applicable)

• Are there any other restrictions that need to be considered?





## **DATA Publication (P!!!)**



PUBLICATIONS AND DATA

It is expected that a Data Publication will ensure that data will potentially be considered as a first-class research output (Knowledge Exchange, 2013).

For a dataset to "count" as a publication should be:

- Properly documented with metadata;
- Reviewed for quality;
- Searchable and discoverable in catalogues (or databases);
- Citable in articles.

Costas, R., Meijer, I., Zahedi, Z. and Wouters, P. (2013). The Value of Research Data - Metrics for datasets from a cultural and technical point of view. A Knowledge Exchange Report, available from <a href="https://www.knowledge-exchange.info/datametrics">www.knowledge-exchange.info/datametrics</a>

## Where to publish?

Journal supplementary material service



- ⊕ Institutional data repository
- ⊕ General purpose repository



Domain specific data repository



Trusted domain specific data repository



PUBLISH







## Data publication with domain spec. repository



## **Advantages**

- Offers specialist domain knowledge and data management expertise, e.g. to create a catalogue record and documentation;
- More likely to accept complete datasets;
- Provides preservation and curation to community standards, e.g. file formats migration;
- Ability to control access of (sensitive) personal data;
- May handle data re-use queries;
- May make your data visible via dissemination and promotion.

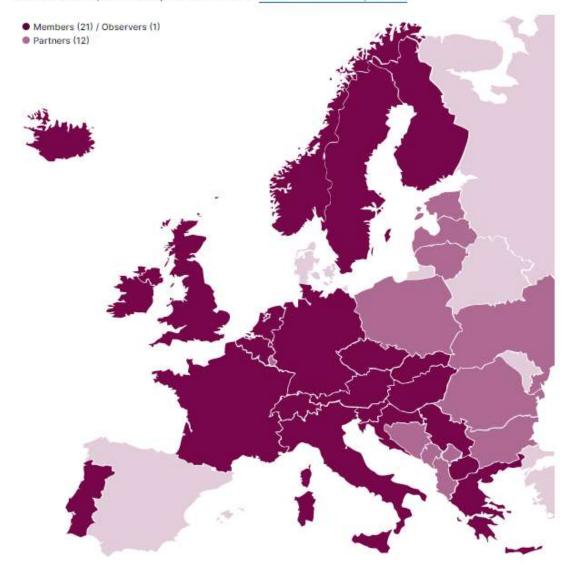
## **Disadvantages**

- Most likely to be selective about what kind of data they accept;
- Requires advance planning of the effort needed to meet high standards for metadata and documentation.



## **Consortium of European Social Science Data Archives**

To find out more, use the map below or see the list of members and partners.





## **Archive and publish with ADP**

- 1) Slovenian national data archive for social sciences
- 2) Trust-worthy
- 3) Get credits for publication
- 4) Get advise and support from data experts
- 5) Get training
- 6) Get involved with ADP's partnering data archives





## Archiving and publishing your data

## Archiving

- How and where will the data be stored after the project's completion?
- Will you archive your data in a trusted data repository?
- Will the application of a persistent identifier to your data be ensured?

### Data formats

- What formats will you provide your data in for archiving (and sharing)?
- Will specific software be required to process your data? Can this software be deposited with the data?

## Access (if applicable)

- Will your data be available (Open Access)?
- Will all data or only parts of it be published?
- What licenses do you need for your data?
- · How should your data be cited when reused?
- Will there be an embargo period for (all or some of) the data?
- Are there other agreements or restrictions (see above) that need to be considered?
- Are there any legal/ethical restrictions that prevents the publication of all the material?
- Will these restrictions mean that action must be taken before the material can be made available?
- Is there a risk of delayed publication/making data available (all or parts of)?
   If so what might be needed to do to avoid this?





## **Data life cycle**





CESSDA Training Team (2017 - 2020). *CESSDA Data Management Expert Guide*. Bergen, Norway: CESSDA ERIC. Retrieved from <a href="https://www.cessda.eu/DMGuide">https://www.cessda.eu/DMGuide</a>



## Time to...

# Present your DMP 🙂



https://instr.iastate.libguides.com/dmp/writingDMP



## **Important take away**

## Challenging situations

## Solutions as part of DMP

1) I will finalize my thesis next week. I need to publish my data.

- 1) Contact your data archive at least 6 months before you plan to finish your thesis
- 1) Data access agreement doesn't allow me to share the variables.
- Check access agreement before signing it, be sure that you are able to share your data.
- 1) I promised participants to use my data only for my PhD thesis.

 Check with data archive if the consent form allows you publishing your data, before you collect the data



## **Additionally**

CESSDA Quiz: www.cessda.eu/dmeg

Take the quiz below and find out which chapters of DMEG will be most useful for you.



LoD Data Management Challenge game: <a href="https://lod.sshopencloud.eu">https://lod.sshopencloud.eu</a>





## IF YOU HAVE ANY FURTHER QUESTIONS...



## ... CONTACT ADP

University of Ljubljana Faculty of Social Sciences

**Social Science Data Archive** 

Kardeljeva ploščad 5 1000 Ljubljana Slovenia



www.adp.fdv.uni-lj.si



arhiv.podatkov@fdv.uni-lj.si



Arhiv.Druzboslovnih.Podatkov



@ArhivPodatkov











## **FURTHER READINGS**

- 1) PROTECT CONSENT FORM
- 2) COSTING TOOL (https://ukdataservice.ac.uk/media/622368/costingtool.pdf)
- 3) PROTECT AND STORE YOUR DATA (<a href="https://study.sagepub.com/corti2e/student-resources/data-collection/answers-to-in-chapter-exercises/61-book-answers">https://study.sagepub.com/corti2e/student-resources/data-collection/answers-to-in-chapter-exercises/61-book-answers</a>)
- 4) ANONYMIZATION OF QUALITATIVE DATA (<a href="https://study.sagepub.com/corti2e/student-resources/data-collection/answers-to-in-chapter-exercises/81-anonymisation-of">https://study.sagepub.com/corti2e/student-resources/data-collection/answers-to-in-chapter-exercises/81-anonymisation-of</a>)
- 5) FILE FORMATS (https://ukdataservice.ac.uk/media/622179/exercise\_open\_file\_for\_mats.pdf)
- 6) Template for transcribing interviews, with uniform style and layout (Model qualitative interview transcript)



## How FAIR are your data?

### **Findable**

It should be possible for others to discover your data. Rich metadata should be available online in a searchable resource, and the data should be assigned a persistent identifier.

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A persistent	identifier	is assigned	TO	vour data
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- ☐ There are rich metadata, describing your data
- ☐ The metadata are online in a searchable resource e.g. a catalogue or data repository
- ☐ The metadata record specifies the persistent identifier

. . . . . . .

Let's see if your data is FAIR

https://www.cessda.eu/content/download/3845/35038/file/20170707 How FAIR are your data Jones.pdf

Read the points and add notes to elements that still need to be resolved.



## **COSTING TOOL**

https://www.ukdataservice.ac.uk/media/622368/costingtool.pdf

ACTIVITY	COMMENTS AND SUGGESTIONS	1	COST
<ul> <li>Data description</li> <li>Are data in a spreadsheet or database clearly marked with variable and value labels, code descriptions, missing value descriptions, etc.?</li> <li>Are labels consistent?</li> <li>Do textual data like interview transcripts need description of context, e.g. included as a heading page?</li> </ul>	<ul> <li>if data description is carried out as part of data creation, data input or data transcription         <ul> <li>low or no additional cost</li> </ul> </li> <li>if needed to be added afterwards – higher cost</li> <li>codebooks for datasets can often be easily exported from software packages</li> </ul>		
<ul> <li>Data cleaning</li> <li>Do quantitative data need to be cleaned, checked or verified before sharing, e.g. check validity of codes used, check for anomalous values?</li> <li>Will data match documentation, e.g. same number of variables, cases, records, files?</li> <li>Does textual information in data need to be spell-checked?</li> </ul>	<ul> <li>if carried out as part of data entry and preparation before data analysis – low or no additional cost</li> <li>if needed afterwards – higher cost</li> </ul>		
Do you have documentation for the data that describes the context and methodology of how data were gathered, created, processed and quality controlled?	<ul> <li>often essential contextual and methods documentation will be written up in publications and reports</li> <li>if all data creation steps are well documented and documentation is kept well organised during research – low or no additional cost</li> </ul>		



## Why publish research data?



Data Sharing and Management Snafu in 3 Short Acts

Karen Hanson, Alisa Surkis and Karen Yacobucci (2012) NYU Health Sciences Library: https://www.youtube.com/watch?v=N2zK3sAtr-4



## Sources

CESSDA Training Team (2017 - 2022). CESSDA Data Management Expert Guide. Bergen, Norway: CESSDA ERIC. Retrieved from <a href="https://www.cessda.eu/DMGuide">https://www.cessda.eu/DMGuide</a>

Astell, Mathias; Admin, Springer Nature (2018): Infographic - Practical challenges for researchers in data sharing. Figshare. Journal contribution. <a href="https://doi.org/10.6084/m9.figshare.5996786.v4">https://doi.org/10.6084/m9.figshare.5996786.v4</a>

Some slides originate from Train the Trainers package of CESSDA DMEG. We would like to thank colleagues from CESSDA to make it possible to re-use them for events like this.



## Viri v slovenskem jeziku (sources in SI)

ADP: **Življenjski krog podatkov**:

https://www.adp.fdv.uni-lj.si/usposobi/ZKG/nacrtovanje/

Načrt ravnanja z raziskovalnimi podatki – vprašalnik:

https://www.adp.fdv.uni-lj.si/publikacije adp/publikacija/338/

## Informacijski pooblaščenec:

- infografika <u>Podlaga za obdelavo osebnih podatkov</u> https://upravljavec.si/pogosta-vprasanja/komunikacija-b2c-in-b2b/
- Ocena učinka v zvezi z varstvom osebnih podatkov

https://www.ip-rs.si/zakonodaja/reforma-evropskega-zakonodajnega-okvira-za-varstvo-osebnih-podatkov/kljucna-podrocja-uredbe/ocena-ucinka-v-zvezi-z-varstvom-podatkov/

Načrtovanje zbiranja raziskovalnih podatkov skladno z načeli FAIR (predavanje za doktorske študente, 2019), https://www.adp.fdv.uni-lj.si/publikacije\_adp/publikacija/324/

DCC: DMPOnline (posnetek predstavitve uporabe, P. Čerče, ZRS Koper)

https://www.youtube.com/watch?v=wt9Y9AJKtVs



# Using Administrative Data for Research

Legal and
Ethical issues
to consider















