

Develop a Research Data Management Strategy

Goals:

- Establish a system that can be replicated across projects/classes
- Leverage directory and file names as metadata to help discovery and re-use by others in your research group and future you
- Ensure directory and file names are both human and computer readable

Common naming conventions:

- CamelCase: capitalize first letter of each word to make more human readable without spaces
- snake_case: all lowercase, uses ‘_’ or ‘-’ to separate words
- key-value pairs: a form of snake case for file naming that uses both ‘_’ and ‘-’ to pair metadata keys with specific values (e.g., key1-value_key2-value_key3-value)
 - Used more frequently for files than for directory names
 - Multiple key-value pairs: the information often becomes more specific the further into the name
 - Example: A study examines sex differences in undergraduate students’ math and English test performance when the test is taken in a room with a small group of students versus a large lecture class with >50 students.

| Key | File 1 | File 2 | File 3 |
|------------------------|-------------|---------|---------|
| sub = subject ID | 001 | 001 | 002 |
| cond = study condition | small_group | lecture | lecture |
| test = test subject | math | English | math |

- File 1: sub-001_cond-small_group_test-english
- File 2: sub-001_cond-lecture_test-english
- File 3: sub-002_cond-lecture_test-math

Directory structure guidelines:

1. Start with abstract categories (e.g., data, code, analyses) so that the structure can be replicated across multiple projects
2. Aim to balance sub-directories and file counts — ideally, avoid hundreds of folders or thousands of files in one directory.

1. Decided on a naming convention for directories and files:

2. Choose 1 folder that has files stored in it – identify the key pieces of information (metadata) you want to identify in the file name (chose no more than 5):
 - If using key-value pairs, name and define your keys (e.g., *Key 1: sub = subject ID*)
 - Key 1:

 - Key 2:

 - Key 3:

 - Key 4:

 - Key 5:

3. Pick a few files and provide example file names following your chosen naming convention and the key pieces of information (metadata) you selected:

4. Identify a directory structure for a project you currently or previously worked on and start to apply the directory and naming conventions discussed previously:

| Current/Old | Updated/New |
|-------------|-------------|
| + _____ | + _____ |
| + _____ | + _____ |
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