A guide for sharing behavioral data

Data sharing contains two key components:

(1) The format the data is saved in (folder and file structure, file naming and format)
(2) The platform on which the data is shared, and its restrictions.

The following guide is for sharing **participants' behavioral data**, preferable in **BIDS format** or BIDS-compatible format, onto the **OSF platform** (https://osf.io/).

- For more information about OSF data and metadata management, see: https://help.osf.io/article/392-data-management
- For more information about BIDS format, see: https://bids-standard.github.io/awesome-bids/
- For more information about BIDS format for behavioral data see: https://bids-specification.readthedocs.io/en/stable/modality-specific-files/behavioral-experiments.html

What is BIDS?

BIDS (Brain Imaging Data Structure) is a standardized system for organizing and storing data in a way that makes it easy to share and analyze. As it's widely used in neuroimaging, there has been progress in creating a BIDS format for behavioral data in recent years.

Though not yet all-encompassing and standardized across experiment types, The BIDS specification provides guidelines for organizing and annotating behavioral data collected during experiments. This includes:

- **Behavioral Data Files**: Stored in .tsv format.

- **Metadata Files**: Stored in .json format, providing details about the task, equipment, and other relevant information. BIDS also standardizes how you store metadata (extra information). This includes things like the details of the experiment (e.g., the type of task, the conditions, the equipment used for recording the data), or information about the participants (e.g., age, gender). This metadata is typically stored in .json files that are placed alongside the data files.

- **Events Files**: Optional .tsv and .json files detailing the timing and types of events during the experiment (e.g., stimulus onset, stimulus offset, the beginning and end of a trial, the timestamp of a participant's response).

Akin to neural data, BIDS provides a consistent structure and naming convention for organizing the behavioral data and metadata, ensuring that anyone using the data knows exactly where to find each part of it and how to process it. See an example for converting a behavioral dataset to BIDS here: https://www.fieldtriptoolbox.org/example/other/bids_behavioral/ .

Importantly however, before sharing behavioral data with anyone, a **key step is to anonymize the data**. Notably, BIDS conversion, even when exists, does not handle data anonymization. Thus, prior to processing the data for uploading, **it's your responsibility to ensure that the data does not contain any sensitive information about the participants.**

Organizing and Naming Behavioral Data

Organize your data using a hierarchical folder structure that reflects the experimental design. For a (BIDS inspired) example:

```
/project_name
   /participants
      /sub-001
         /ses-baseline
            /beh
               sub-001_ses-baseline_task-experiment_beh.json
               sub-001_ses-baseline_task-experiment_beh.tsv
               sub-001_ses-baseline_task-experiment_events.json
               sub-001_ses-baseline_task-experiment_events.tsv
```

- **sub-001**: Participant identifier.
- **ses-baseline**: Session label (e.g., baseline, post-treatment).
- **beh**: Behavioral data folder.
- **.json and .tsv files**: Metadata and data files, respectively.

Try to follow the Brain Imaging Data Structure (BIDS) naming conventions for consistency:

- **Behavioral Data**: sub-<participant_label>[_ses-<session_label>]_task-<task_label>[_acq-<acquisition_label>][_run-<run_index>]_beh.tsv
- **Events File**: sub-<participant_label>[_ses-<session_label>]_task-<task_label>[_acq-<acquisition_label>][_run-<run_index>]_events.tsv

- **Metadata (JSON)**: sub-<participant_label>[_ses-<session_label>]_task-<task_label>[_acq-<acquisition_label>][_run-<run_index>]_beh.json

Uploading to OSF

1. Create a New Project

- Visit OSF and log in.
- Click on "Create new project."
- Provide a title, description, and select a category (e.g., Psychology).
- Choose the visibility settings (private, public, or restricted).

2. Organize Project Files

- Upload your organized folder structure to the project.
- Ensure that all files are named according to the conventions mentioned above.

3. Add Metadata

- Use the CEDAR metadata tool to add metadata to your project and files. See here: https://help.osf.io/article/392-data-management
- Include information such as authorship, funding sources, and data collection methods.

4. Set Access Permissions

- Determine who can view or edit your project.
- Set permissions for collaborators and the public as appropriate.

5. Publish and Share

- Once your project is complete, click "Publish."

- Share the DOI or project link with collaborators or include it in publications.