# Key Variables Extracted from the Best Practices in Data Analysis and Sharing in Neuroimaging using MRI (COBIDAS) Document

## Experimental Design
- Age (mean, SD, range)
- Sex
- Education (Parents) / SES
- Handedness
- Exclusion criteria
- Clinical criteria
- Clinical Instruments
- Cognitive measures
- Race/Ethnicity (if applicable)
- Matching strategy (if applicable)
- Subject scanning order
- Pre-registration of study

## Ethical Considerations
- Ethical approval
- Informed consent
- Informed assent (if applicable)

## Acquisition Reporting
- Special accommodations
- MRI model and field strength
- Type of head coil
- Pulse sequence & parameters (full set listed in COBIDAS document)
- Parallel imaging / multiband
- Fat suppression
- Brain coverage
- Internal scanner pre-processing

## Functional MRI
- Task or resting-state fMRI
- Length and number of runs
- “Dummy” scans acquired
- “Motion monitoring / correction
- rs-fMRI: Eyes open or closed?

## Task functional MRI
- Design (E-event related, block, etc.)
- Condition and stimuli used
- Timing structure of events
- Random/Jittered pattern used
- Optimization of design?
- Presentation software used?
- Unique number of stimuli
- Repetition of the stimuli used
- Ordering of events/blocks
- Presentation hardware
- Responses collected
- Run order

## Behavioral Performance
- Number of variables recorded
- Types of variables recorded
- Performance summary statistics

## Preprocessing
- Software used
- Segmentation method
- Gradient distortion correction
- Spatial filtering
- Registration algorithm
- Native or Standard space
- Intensity correction
- Physiologic noise removal

## DTI Preprocessing
- Eddy current correction
- Diffusion estimation models
- Voxel-wise or tract-based?
- Threshold to define voxels of interest
- Reference or atlas used
- Algorithm used for tractography

## fMRI Preprocessing
- T1 Stabilization volumes
- Slice timing correction
- Motion correction approaches
- Temporal filtering
- Excluded due to excessive motion
- Function/Structure coregistration
- Summatory measures used for analyses
- Volume censoring
- Masks or seed regions applied?

## Statistical Modeling & Inference
- Dependent variable
- Independent variables
- Model type
- Feature extraction
- Dimension reduction
- Model settings
- Inference: Contrast/Effect
- Inference: Search region
- Inference: Statistic type
- Inference: p-Value computation
- Inference: Multiple testing correction
- Training procedure
- Evaluation metrics
- Significance and fit

## Results Reporting
- List of tested and omitted effects
- Unthresholded maps
- ICA analyses and # of components
- Extracted data
- Extracted data
- Graph Theory: Null hypothesis tested
- Table of Coordinates
- Spatial features
- Optimized evaluation metrics

## Data Sharing & Reproducibility
- Materials shared
- URL and/or Access information
- Tools used (names, versions, URLs)
- Ethics compliance
- Data format (i.e., DICOM, BIDS)
- Computational infrastructure

**Note:** For a complete description of each item, reporting of power analyses, and for alternative neuroimaging methods (i.e. arterial spin labelling, dynamic susceptibility contrast MRI, or combined MRI and EEG, etc.) please refer to the original COBIDAS document at the following site: [https://www.biorxiv.org/content/10.1101/054262v2]. This Table is open and can be copied, pasted, adapted, or re-used in any format.