# Documentation Changes

## For External Users and DMAT Team

| Version | Author(s) |
|---|---|
| 1.1 | Taheriyan, F. |
| **Date** | **Editor(s)** |
| June 11, 2024 | Taheriyan, F., Das, D., Kahraman, K., Sripad, P., Brown, T., Melloni, L., Bonacchi, N. |

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# Introduction

In this document, a record of changes made to previous versions of the Data Release Document is maintained.

## v1.0 → v1.1

The revisions or changes from v1.0 (MEEG-DR-doc_2024-03-18_v1.0) to v1.1 (iEEG-DR-doc_2024-04-03_v1.1) are as follows:

| Page* | Heading | Description of Change | Changed by |
|---|---|---|---|
| 4 | Updates | **1st Paragraph:** first version (V1.0) → second version (V1.1)<br><br>**2nd Paragraph:** In V1.0, we released a subset of magnetoencephalography (MEG) data (batch 1) in the Brain Imaging Data Structure (BIDS) format. It includes data from 48 subjects who participated in Experiment 1, packaged in a Bundle format. → In V1.1, the raw/unprocessed and BIDS (Brain Imaging Data Structure) format of iEEG (intracranial electroencephalography) data, collected by the Cogitate Consortium for Experiment 1, are released.<br><br>**3rd Paragraph:** Removing "**The demography of subjects for this release can be found here." | Fatemeh Taheriyan |
| 4 | Future Releases | • BIDS format of the rest of the M-EEG data along with the unprocessed/raw data<br>• Unprocessed/raw and BIDS format of fMRI and iEEG data<br><br>→<br><br>• BIDS format of the M-EEG data (batch 2)<br>• Unprocessed/raw format of all M-EEG data (batch 1 and batch 2)<br>• Unprocessed/raw and BIDS format of fMRI data | Fatemeh Taheriyan |
| 5 | Overview of COGITATE | Updating Harin's figure: overview_graphic<br><br>Deleting "(over 550 subjects from different populations)"<br><br>"invasive intracortical recordings" → "intracranial electrocorticography" | Fatemeh Taheriyan |
| 6 | Experiments | Rephrasing 1st sentence of 1st paragraph: "two sets of clearly visible task relevant and irrelevant stimuli were shown to the subjects with different durations" → "a set | Fatemeh Taheriyan |

| | | of clearly visible task relevant and irrelevant stimuli was shown to the subjects with different durations" | |
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| 7 | Design | **Stimulus Category (4), Column 2:** Adding "*20 identities for each category"<br>**Stimulus Orientation (2), Column 2:**<br>● Side view (right or left view) → Side view (25% right and 25% left)<br>● Front view → Front view (50%) | Fatemeh Taheriyan |
| 7 | Sample Size | 44 for iEEG → 38 for iEEG | Fatemeh Taheriyan |
| 8 | COGITATE Dataset | **1st Paragraph:** 266* subjects → 262 subjects<br>*The total number of subjects was wrong even with considering the reported number of subjects for each modality | Fatemeh Taheriyan |
| 9 | COGITATE Dataset | **4th Paragraph**: 44 patients → 38 patients | Fatemeh Taheriyan |
| 10 | COGITATE Dataset | Substituting the plots [Age Histograms across Modalities, Sex Proportions across Modalities, Handedness Proportions across Modalities] with the updated versions<br><br>Minor change in the captions:<br>Age Histograms across Modalities → Age histograms across modalities<br>Sex Proportions across Modalities → Sex proportions across modalities<br>Handedness Proportions across Modalities → Handedness proportions across modalities | Fatemeh Taheriyan |
| 11 | Demography of Subjects | Updating the file of subjects_demography | Fatemeh Taheriyan |
| 12 | Quality Check | Deleting "and for iEEG, a more relaxed criteria of 70% Hits and 30% FAs was used. Two M-EEG subjects were excluded due to low hit rates and one iEEG patient was excluded due to high FAs" | Fatemeh Taheriyan |
| 12 | Exclusion Criteria | Deleting "<70% Hits, >30% FAs for iEEG patients" | Fatemeh Taheriyan |
| 13 | File type glossary | Changing the format of title: File type glossary → File Type Glossary<br><br>Edition in **Row 2**, **Column 4** \| 2nd paragraph \| Explanation of "EyeLink eye tracker": "our data" → "our data analysis" | Fatemeh Taheriyan |
| 14 | File Type Glossary | Edition in **Row 2**, **Column 4** \| numerical list for files generated by eye tracking systems: | Fatemeh Taheriyan |

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| | | ● Added "[EyeLink eye tracker]" to the Fixations, Saccades, and Blinks<br>● Added item 7 → Description of Triggers | |
| 15 | File type glossary | Adding ECoG (iEEG) related information to the table | Fatemeh Taheriyan |
| 15 | Data Acquisition | data release: M-EEG → data release: M-EEG, iEEG | Fatemeh Taheriyan |
| 15 | Stimuli | Adding "(30° and -30°)" and "0°" | Fatemeh Taheriyan |
| 15 | Procedure | Added a table describing some terms and their definition<br><br>Edited the entire text | Fatemeh Taheriyan |
| 18 | Anatomical MRI Data Acquisition | **For CHBH:** Adding TR/TE = 2000/2.03ms; TI = 880 ms; 8° flip angle<br><br>**For PKU:**<br>Correcting 1 x 1 x 1 mm → 0.5 x 0.5 x 1 mm, 198 sagittal slices → 192 sagittal slices, FOV: 256 × 256 matrix → 448 × 512 matrix<br><br>Adding TR/TE = 2530/2.98ms; TI = 1100 ms; 7° flip angle, 192 sagittal slices; FOV: 448 × 512 matrix<br><br>Adding a table for MR imaging parameters | Fatemeh Taheriyan |
| 18 | Behavioral Setup | Changing the title: Behavioral Setup → Behavioral Data Acquisition | Fatemeh Taheriyan |
| 18 | Behavioral Setup | Changing the content to "The task was executed using Matlab (CHBH: R2019b, PKU: R2018b) with Psychtoolbox v.3 (Pelli, 1997) on a custom PC at CHBH and a Dell XPS desktop PC at PKU. Visual stimuli were presented on a screen placed in front of the subjects with a PROPixx DLP LED projector (VPixx Technologies Inc.) at a resolution of 1920 x 1080 pixels and a refresh rate of 120 Hz. The distance between the subject's eyes and the screen was different at each site (CHBH: 119 cm, PKU: 85 cm) to achieve the same FOV of 36.6 x 21.2 degrees. Participants responded with both hands using two 5-button response boxes (CHBH: NAtA, PKU: SINORAD)." | Fatemeh Taheriyan |
| 18 | Eye Tracking | Changing the title: Eye Tracking → Eye Tracking Data Acquisition<br><br>Adding "The channel name that contains the eye tracker data in the FIF file is as follows: MISC1 (X), MISC2 (Y), | Fatemeh Taheriyan |

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| | | and MISC3 (pupil)" | |
| 19 | Eye Tracker and MEG Code Scheme | Removing the text below: "The channel name that contains the eye tracker data in the FIF file is as follows: MISC1 (X), MISC2 (Y), and MISC3 (pupil)<br><br>**Defining some terms**<br>Trial: Stimulus presentation followed by a fixation (the two add up to 2 sec) followed by a jitter of 200 msec to 2000 ms.<br>Mini block: presentation of 34 to 38 stimuli, in the beginning of which the target stimuli were presented. Block: composed of 4 mini blocks. At the end of each block, there was a break. Break: Pause between 2 blocks" | Fatemeh Taheriyan |
| 21 | How The LPT Triggers Were Sent | **2nd Paragraph:** "mini block" → "miniblock" | Fatemeh Taheriyan |
| 21 | Task (tM-EEG) | Adding "tM-EEG consisted of 10 runs, with 4 blocks each. During each block, a ratio of 34-38 trials was presented, with 32 non-targets (8 of each category), 2-6 targets (number chosen randomly), and each trial lasting 2.4 s approximately. Rest breaks between runs and blocks were included. Random jitter was added at the end of each trial (mean inter-trial interval of 0.4 s jittered 0.2-2.0 s, truncated exponential distribution) to avoid periodic presentation of the stimuli." | Fatemeh Taheriyan |
| 22 | Quality Check and Exclusion Criteria | Removing "N=30" | Fatemeh Taheriyan |
| 22 | Between "Quality Check and Exclusion Criteria" and "Data Curation Procedures" | Adding iEEG section | Fatemeh Taheriyan |
| 22 | Data Curation Procedures | Adding the main title of "Curation Procedures"<br><br>Adding the subtitle of "Deviations from Data Curation Procedure"<br><br>Adding the deviations for iEEG | Fatemeh Taheriyan |
| 22 | After "Data Curation | Adding Metadata Curation Standard Operating Procedure section | Fatemeh Taheriyan |

| | Standard Operating Procedure" | | |
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| 34 | After "Raw M-EEG Data Directory Structure" | Adding "Raw iEEG Data Directory Structure" | Fatemeh Taheriyan |
| 34 | BIDS Format | Adding a paragraph explaining BIDS file structure | Fatemeh Taheriyan |
| 36 | After "BIDS M-EEG Data Directory Structure" | Adding "BIDS iEEG Data Directory Structure" | Fatemeh Taheriyan |
| 39 | Links and Reference Materials | **1st Table, Column 1:** Adding YouTube logo to the "YouTube Demos" <br> **1st Table, Column 2:** Updating the link of Subjects Demography <br> **2nd Table, Column 3:** Changing 44 to 38 <br> **2nd Table, Column 4:** Adding iEEG reference materials | Fatemeh Taheriyan |
| 40 | Appendices | Adding Appendix 8. Metadata Curation Standard Operating Procedure <br><br> Adding Appendix 9. iEEG Standard Operating Procedure | Fatemeh Taheriyan |
| 40 | Acknowledgements | Adding the logo of Templeton World Charity Foundation | Fatemeh Taheriyan |
| 41 | Appendix 1. Screening Form | Adding "M-EEG Screening Form" title | Fatemeh Taheriyan |
| 42 | Appendix 2. Case Report Form | This form is for reporting → This form was for reporting <br><br> the operator should fill out this form → the operator filled out this form | Fatemeh Taheriyan |
| 42 | M-EEG Case Report Form | the below items are asked → the below items were asked | Fatemeh Taheriyan |
| 42 | After "M-EEG Case Report Form" | Adding "iEEG Case Report Form" information | Fatemeh Taheriyan |
| 43 | References | Adding new references <br><br> Adding "doi" of papers | Fatemeh Taheriyan |

| | | Hyperlinking the references | |
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# v1.1 → v1.2

The modifications or alterations from v1.1 (iEEG-DR-doc_2024-04-03_v1.1) to v1.2 (MEEG-Batch2-DR-doc_2024-06-10_v1.2) are outlined below:

| Page* | Heading | Description of Change | Changed by |
|---|---|---|---|
| 5 | Updates | **1st Paragraph:** second version (V1.1) → third version (V1.2)<br><br>**2nd Paragraph:** In V1.1, the raw/unprocessed and BIDS (Brain Imaging Data Structure) format of iEEG (intracranial electroencephalography) data, collected by the Cogitate Consortium for Experiment 1, are released. → In V1.2, we released the second subset of magnetoencephalography (MEG) data (batch 2) in the Brain Imaging Data Structure (BIDS) format, along with eye tracking data (ET) in RAW format. This subset includes data from 52 subjects who participated in Experiment 1, packaged in a Bundle format.<br><br>Adding "Attention" table | Fatemeh Taheriyan |
| 5 | Future Releases | ● BIDS format of the M-EEG data (batch 2)<br>● Unprocessed/raw format of all M-EEG data (batch 1 and batch 2)<br>● Unprocessed/raw and BIDS format of fMRI data<br>→<br>● Unprocessed/raw format of all M-EEG data (batch 1 and batch 2)<br>● Unprocessed/raw and BIDS format of fMRI data | Fatemeh Taheriyan |
| 5 | Previous Releases | Updating the table | Fatemeh Taheriyan |
| 5 | Documentation Changes | Updating the table | Fatemeh Taheriyan |
| 26 | After "Quality Check and | Adding "Deviations and Missing Data" section | Fatemeh Taheriyan |

| | Exclusion Criteria" | | |
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*Page\*: Page number is based on the pdf version of each Data Release Document which is uploaded in COGITATE GitHub repository. For instance, for v1.0 → v1.1, the "MEEG-DR-doc_2024-03-18_v1.0.pdf" is considered as the reference file and all of the differences between v1.0 and v1.1 are listed based on it.*