

FWO DMP Template - Flemish Standard Data Management Plan

Project supervisors (from application round 2018 onwards) and fellows (from application round 2020 onwards) will, upon being awarded their project or fellowship, be invited to develop their answers to the data management related questions into a DMP. The FWO expects a **completed DMP no later than 6 months after the official start date** of the project or fellowship. The DMP should not be submitted to FWO but to the research co-ordination office of the host institute; FWO may request the DMP in a random check.

At the end of the project, the **final version of the DMP** has to be added to the final report of the project; this should be submitted to FWO by the supervisor-spokesperson through FWO's e-portal. This DMP may of course have been updated since its first version. The DMP is an element in the final evaluation of the project by the relevant expert panel. Both the DMP submitted within the first 6 months after the start date and the final DMP may use this template.

The DMP template used by the Research Foundation Flanders (FWO) corresponds with the Flemish Standard Data Management Plan. This Flemish Standard DMP was developed by the Flemish Research Data Network (FRDN) Task Force DMP which comprises representatives of all Flemish funders and research institutions. This is a standardized DMP template based on the previous FWO template that contains the core requirements for data management planning. To increase understanding and facilitate completion of the DMP, a standardized **glossary** of definitions and abbreviations is available via the following [link](#).

1. General Project Information

Name Grant Holder & ORCID	Saranda Bekteshi ; 0000-0001-5232-0434
Contributor name(s) (+ ORCID) & roles	Elegast Monbaliu ; 0000-0002-7070-9387 ; supervisor (PI) Bernard Dan ; 0000-0002-2051-9876 ; co-supervisor Kaat Alaerts ; 0000-0001-8665-6374 ; co-supervisor Roser Pueyo ; 0000-0002-8230-8409 ; co-supervisor
Project number ¹ & title	Project nr.: 1264123N Title: 'Eye-tracking working memory training in school-aged children and youth with severe cerebral palsy: a randomized controlled trial'
Funder(s) GrantID ²	FWO
Affiliation(s)	X KU Leuven <input type="checkbox"/> Universiteit Antwerpen <input type="checkbox"/> Universiteit Gent <input type="checkbox"/> Universiteit Hasselt <input type="checkbox"/> Vrije Universiteit Brussel <input type="checkbox"/> Other:

¹ "Project number" refers to the institutional project number. This question is optional since not every institution has an internal project number different from the GrantID. Applicants can only provide one project number.

² Funder(s) GrantID refers to the number of the DMP at the funder(s), here one can specify multiple GrantIDs if multiple funding sources were used.

Please provide a short project description	<p>Cerebral palsy (CP) is a neurodevelopmental diagnosis that is caused (mainly) by lesions in the developing or infant brain. Depending on the location of the lesion and its extent, CP can have a myriad of symptoms, both motor and non-motor impairments. Approximately 30% of individuals with CP are unable to walk, unable to use their hands, and unable to produce intelligible speech. In addition to the motor impairments that interfere with the activities of daily living, these individuals may also have visual and hearing impairments, epilepsy, and cognitive impairments (including impairments with the executive functions).</p> <p>Due to the motor impairments, individuals with severe CP are unable to use conventional interfaces to access computers, such as a mouse, a keyboard, or touchscreen. To date, the best option to access computers for communication, education, and leisure is the use of eye-tracking technology. Eye-trackers are small devices equipped with infrared sensors which detect the movements of the eye and translate them into movements of the cursor on the screen. In this manner, individuals with severe CP are able to benefit from the use of computers in their daily-life activities.</p> <p>As a human computer interface, the use of eye-tracking technology has the motor aspect (i.e., the ability to successfully operate with the system) as well as the subjective workload (i.e., user-experience). Our previous studies on eye-tracking technology in severe CP showed that their quality of the eye movements was comparable to the quality of the eye movements of healthy children; and children with severe CP did not experience any stress (a measure of user-experience) during the performance of eye-tracking tasks. This evidence shows that individuals with severe CP are able to operate with the eye-tracking technology and do not perceive its use as burdensome. However, for children with severe CP, the time to perform the same gaming tasks as healthy children was more than twice long. Previous research shows that the use of any Augmentative and Alternative Communication device (including eye-tracking) puts unique demands on the working memory, which is one of the main executive functions. Working memory is defined as our ability to temporarily store information that is no longer perceptually present, allowing us to manipulate it for meaningful goal-directed behaviours, such as decision-making, problem-solving and reasoning. In</p>
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individuals with severe CP, working memory capacity is significantly lower than that of healthy individuals, making skill-acquisition processes long and inefficient, and the use of eye-tracking technology taxing. Computerized working memory training software have shown great benefits in diagnoses such as Autism and ADHD. The most used working memory training program (with the most empirical evidence) is Cogmed Working Memory Training (CWMT) software. CWMT has not been trialled before in individuals with severe CP, mainly because access to the software is difficult.

We set up a Randomized Controlled Trial (RCT) to explore the effectiveness of CWMT in children and youth with severe CP. To access the software, participants will be using eye-tracking technology, making this study unique. We aim to recruit 60 children and youth with severe CP, aged 7-16 years old, who will be randomly assigned to two groups: 30 participants in the experimental group (Standard version of Cogmed, 25 sessions, with each session comprising of working memory tasks of approximately 45 minutes) and 30 participants in the active control group (Light version of Cogmed, 25 sessions, with each session comprising of working memory tasks of approximately 15 minutes). Our primary outcome measure is the Cogmed Mean Improvement Index, which will compare pre-post intervention metrics. Our secondary outcome measures include: neuropsychological assessments (other executive functions such as cognitive flexibility and inhibition, visual-perceptual skills, language comprehension), neuroplasticity (using functional Magnetic Resonance Imaging), Heart Rate Variability (HRV), quality of eye movements, academic achievement, Augmentative and Alternative Communication Profile, and behaviour connected to the executive functions.

In addition to the RCT, we aim to recruit 30 typically-developing children and youth who will be assessed only once with all of the included assessments, but will not participate in the intervention. The data from the typically-developing participants will assist the interpretation of the results from the RCT.

2. Research Data Summary

List and describe all datasets or research materials that you plan to generate/collect or reuse during your research project. For each dataset or data type (observational, experimental etc.), provide a short name & description (sufficient for yourself to know what data it is about), indicate whether the data are newly generated/collected or reused, digital or physical, also indicate the type of the data (the kind of content), its technical format (file extension), and an estimate of the upper limit of the volume of the data³.

Dataset Name	Description	New or Reused	Digital or Physical	ONLY FOR DIGITAL DATA	ONLY FOR DIGITAL DATA	ONLY FOR DIGITAL DATA	ONLY FOR PHYSICAL DATA
				Digital Data Type	Digital Data Format	Digital Data Volume (MB, GB, TB)	Physical Volume
Patient characteristics: Type of CP, age, sex, functional profile	A file containing personal data (i.e. data describing patient characteristics)	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input checked="" type="checkbox"/> Observational <input type="checkbox"/> Experimental <input type="checkbox"/> Compiled/aggregated data <input type="checkbox"/> Simulation data <input type="checkbox"/> Software <input type="checkbox"/> Other <input type="checkbox"/> NA	<input type="checkbox"/> .por <input type="checkbox"/> .xml <input type="checkbox"/> .tab <input checked="" type="checkbox"/> .csv <input type="checkbox"/> .pdf <input type="checkbox"/> .txt <input type="checkbox"/> .rtf <input type="checkbox"/> .dwg <input type="checkbox"/> .tab <input type="checkbox"/> .gml <input type="checkbox"/> other: <input type="checkbox"/> NA	<input checked="" type="checkbox"/> < 100 MB <input type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> < 10 TB <input type="checkbox"/> < 50 TB <input type="checkbox"/> > 50 TB <input type="checkbox"/> NA	
Protocols, documentation, metadata, and manuscripts:	Project protocol, details related to data collection/processing, and data collection/analysis particularities (including metadata) will be stored in Word (.docx), Excel	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Observational <input type="checkbox"/> Experimental <input type="checkbox"/> Compiled/aggregated data <input type="checkbox"/> Simulation data <input type="checkbox"/> Software <input checked="" type="checkbox"/> Other <input type="checkbox"/> NA	<input type="checkbox"/> .por <input type="checkbox"/> .xml <input type="checkbox"/> .tab <input checked="" type="checkbox"/> .csv <input checked="" type="checkbox"/> .pdf <input checked="" type="checkbox"/> .txt <input type="checkbox"/> .rtf <input type="checkbox"/> .dwg <input type="checkbox"/> .tab <input type="checkbox"/> .gml	<input checked="" type="checkbox"/> < 100 MB <input type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> < 10 TB <input type="checkbox"/> < 50 TB <input type="checkbox"/> > 50 TB <input type="checkbox"/> NA	

³ Add rows for each dataset you want to describe.

	(.xlsx), or text (.txt) files. Manuscripts originating from the project will be stored as Word documents (.docx), and final versions will be exported to PDF format (.pdf) to preserve their integrity.				<input type="checkbox"/> other: <input type="checkbox"/> NA		
Cogmed Working Memory Training	Data pertaining the intervention software	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Observational <input checked="" type="checkbox"/> Experimental <input type="checkbox"/> Compiled/aggregated data <input type="checkbox"/> Simulation data <input type="checkbox"/> Software <input type="checkbox"/> Other <input type="checkbox"/> NA	<input type="checkbox"/> .por <input type="checkbox"/> .xml <input type="checkbox"/> .tab <input checked="" type="checkbox"/> .csv <input type="checkbox"/> .pdf <input type="checkbox"/> .txt <input type="checkbox"/> .rtf <input type="checkbox"/> .dwg <input type="checkbox"/> .tab <input type="checkbox"/> .gml <input type="checkbox"/> other: <input type="checkbox"/> NA	<input type="checkbox"/> < 100 MB <input checked="" type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> < 10 TB <input type="checkbox"/> < 50 TB <input type="checkbox"/> > 50 TB <input type="checkbox"/> NA	
Neuropsychological assessments	Data pertaining the assessment of executive functions and language comprehension	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Observational <input checked="" type="checkbox"/> Experimental <input type="checkbox"/> Compiled/aggregated data <input type="checkbox"/> Simulation data	<input type="checkbox"/> .por <input type="checkbox"/> .xml <input type="checkbox"/> .tab <input checked="" type="checkbox"/> .csv <input checked="" type="checkbox"/> .pdf	<input type="checkbox"/> < 100 MB <input type="checkbox"/> < 1 GB <input checked="" type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB	

				<input type="checkbox"/> Software <input type="checkbox"/> Other <input type="checkbox"/> NA	<input type="checkbox"/> .txt <input type="checkbox"/> .rtf <input type="checkbox"/> .dwg <input type="checkbox"/> .tab <input type="checkbox"/> .gml <input type="checkbox"/> other: <input type="checkbox"/> NA	<input type="checkbox"/> < 10 TB <input type="checkbox"/> < 50 TB <input type="checkbox"/> > 50 TB <input type="checkbox"/> NA	
Neuroimaging data	Data pertaining the functional MRI scans, including raw and processed data of the brain scans	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Observational <input checked="" type="checkbox"/> Experimental <input type="checkbox"/> Compiled/aggregated data <input type="checkbox"/> Simulation data <input type="checkbox"/> Software <input type="checkbox"/> Other <input type="checkbox"/> NA	<input type="checkbox"/> .por <input type="checkbox"/> .xml <input type="checkbox"/> .tab <input checked="" type="checkbox"/> .csv <input checked="" type="checkbox"/> .pdf <input type="checkbox"/> .txt <input type="checkbox"/> .rtf <input type="checkbox"/> .dwg <input type="checkbox"/> .tab <input type="checkbox"/> .gml <input type="checkbox"/> other: <input type="checkbox"/> NA	<input type="checkbox"/> < 100 MB <input type="checkbox"/> < 1 GB <input checked="" type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> < 10 TB <input type="checkbox"/> < 50 TB <input type="checkbox"/> > 50 TB <input type="checkbox"/> NA	
Heart Rate Variability data	Data pertaining the measures of Heart Rate Variability during data collection	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Observational <input checked="" type="checkbox"/> Experimental <input type="checkbox"/> Compiled/aggregated data <input type="checkbox"/> Simulation data <input type="checkbox"/> Software <input type="checkbox"/> Other <input type="checkbox"/> NA	<input type="checkbox"/> .por <input type="checkbox"/> .xml <input type="checkbox"/> .tab <input checked="" type="checkbox"/> .csv <input checked="" type="checkbox"/> .pdf <input type="checkbox"/> .txt <input type="checkbox"/> .rtf <input type="checkbox"/> .dwg <input type="checkbox"/> .tab <input type="checkbox"/> .gml <input type="checkbox"/> other:	<input type="checkbox"/> < 100 MB <input checked="" type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> < 10 TB <input type="checkbox"/> < 50 TB <input type="checkbox"/> > 50 TB <input type="checkbox"/> NA	

					<input type="checkbox"/> NA		
Eye-tracking gaming software data	Data pertaining the assessment of eye movements and academic achievement using gaming software 'Eye Gaze Learning Curve Software' and 'Choose IT! Readymades'	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Observational <input checked="" type="checkbox"/> Experimental <input type="checkbox"/> Compiled/aggregated data <input type="checkbox"/> Simulation data <input type="checkbox"/> Software <input type="checkbox"/> Other <input type="checkbox"/> NA	<input type="checkbox"/> .por <input type="checkbox"/> .xml <input type="checkbox"/> .tab <input checked="" type="checkbox"/> .csv <input checked="" type="checkbox"/> .pdf <input type="checkbox"/> .txt <input type="checkbox"/> .rtf <input type="checkbox"/> .dwg <input type="checkbox"/> .tab <input type="checkbox"/> .gml <input type="checkbox"/> other: <input type="checkbox"/> NA	<input type="checkbox"/> < 100 MB <input checked="" type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> < 10 TB <input type="checkbox"/> < 50 TB <input type="checkbox"/> > 50 TB <input type="checkbox"/> NA	
Questionnaires	Data pertaining the assessment of AAC Profile and behaviour using two questionnaires filled in by parents and therapists of each participant.	<input checked="" type="checkbox"/> Generate new data <input type="checkbox"/> Reuse existing data	<input checked="" type="checkbox"/> Digital <input type="checkbox"/> Physical	<input type="checkbox"/> Observational <input checked="" type="checkbox"/> Experimental <input type="checkbox"/> Compiled/aggregated data <input type="checkbox"/> Simulation data <input type="checkbox"/> Software <input type="checkbox"/> Other <input type="checkbox"/> NA	<input type="checkbox"/> .por <input type="checkbox"/> .xml <input type="checkbox"/> .tab <input checked="" type="checkbox"/> .csv <input checked="" type="checkbox"/> .pdf <input type="checkbox"/> .txt <input type="checkbox"/> .rtf <input type="checkbox"/> .dwg <input type="checkbox"/> .tab <input type="checkbox"/> .gml <input type="checkbox"/> other: <input type="checkbox"/> NA	<input type="checkbox"/> < 100 MB <input checked="" type="checkbox"/> < 1 GB <input type="checkbox"/> < 100 GB <input type="checkbox"/> < 1 TB <input type="checkbox"/> < 5 TB <input type="checkbox"/> < 10 TB <input type="checkbox"/> < 50 TB <input type="checkbox"/> > 50 TB <input type="checkbox"/> NA	

<p>GUIDANCE:</p> <p>DATA CAN BE DIGITAL OR PHYSICAL (FOR EXAMPLE BIOBANK, BIOLOGICAL SAMPLES, ...). DATA TYPE: DATA ARE OFTEN GROUPED BY TYPE (OBSERVATIONAL, EXPERIMENTAL ETC.), FORMAT AND/OR COLLECTION/GENERATION METHOD.</p> <p>EXAMPLES OF DATA TYPES: OBSERVATIONAL (E.G. SURVEY RESULTS, SENSOR READINGS, SENSORY OBSERVATIONS); EXPERIMENTAL (E.G. MICROSCOPY, SPECTROSCOPY, CHROMATOGRAMS, GENE SEQUENCES); COMPILED/AGGREGATED DATA⁴ (E.G. TEXT & DATA MINING, DERIVED VARIABLES, 3D MODELLING); SIMULATION DATA (E.G. CLIMATE MODELS); SOFTWARE, ETC.</p> <p>EXAMPLES OF DATA FORMATS: TABULAR DATA (.POR, .SPSS, STRUCTURED TEXT OR MARK-UP FILE XML, .TAB, .CSV), TEXTUAL DATA (.RTF, .XML, .TXT), GEOSPATIAL DATA (.DWG, .GML, ..), IMAGE DATA, AUDIO DATA, VIDEO DATA, DOCUMENTATION & COMPUTATIONAL SCRIPT.</p> <p>DIGITAL DATA VOLUME: PLEASE ESTIMATE THE UPPER LIMIT OF THE VOLUME OF THE DATA PER DATASET OR DATA TYPE.</p> <p>PHYSICAL VOLUME: PLEASE ESTIMATE THE PHYSICAL VOLUME OF THE RESEARCH MATERIALS (FOR EXAMPLE THE NUMBER OF RELEVANT BIOLOGICAL SAMPLES THAT NEED TO BE STORED AND PRESERVED DURING THE PROJECT AND/OR AFTER).</p>	
<p>If you reuse existing data, please specify the source, preferably by using a persistent identifier (e.g. DOI, Handle, URL etc.) per dataset or data type.</p>	<p>N/A</p>
<p>Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? If so, please describe these issues further and refer to specific datasets or data types when appropriate.</p>	<p> <input checked="" type="checkbox"/> Yes, human subject data <input type="checkbox"/> Yes, animal data <input type="checkbox"/> Yes, dual use <input type="checkbox"/> No If yes, please describe: </p> <p>Included will be n=30 TD children and youth (aged 7-16 years) and n=60 children and youth (aged 7-16 years) with CP. All data in this project will consist of human subject data. Screening, recruitment, and data collection will start once an approval is received by the Ethical Committee of KU/UZ Leuven. An s-number is already obtained (s67227).</p>

⁴ These data are generated by combining multiple existing datasets.

<p>Will you process personal data⁵? If so, briefly describe the kind of personal data you will use. Please refer to specific datasets or data types when appropriate. If available, add the reference to your file in your host institution's privacy register.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes:</p> <p>- Short description of the kind of personal data that will be used: Name and surname, sex, date of birth, type of CP, functional profile (Gross Motor Functional Classification System, Manual Abilities Classification System, Viking Speech Scale, Communication Function Classification System, Eating and Drinking Abilities Classification system, Eye-Pointing Classification System).</p> <p>All identifying data (such as name and surname, date of birth) will be pseudonymized/coded. A password-protected excel file containing the original data will be stored separately, with access only by the PI (Elegast Monbaliu) and postdoctoral researcher of the project (Saranda Bekteshi). This password-protected file will be used to trace back the pseudonymized data (when and if necessary) during or after the project is finished.</p>
<p>Does your work have potential for commercial valorization (e.g. tech transfer, for example spin-offs, commercial exploitation, ...)? If so, please comment per dataset or data type where appropriate.</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please comment:</p>
<p>Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material/Data transfer agreements, research collaboration agreements)? If so, please explain to what data they relate and what restrictions are in place.</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please explain:</p>

⁵ See Glossary Flemish Standard Data Management Plan

<p>Are there any other legal issues, such as intellectual property rights and ownership, to be managed related to the data you (re)use? If so, please explain to what data they relate and which restrictions will be asserted.</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p> <p>If yes, please explain:</p>
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3. Documentation and Metadata	
<p>Clearly describe what approach will be followed to capture the accompanying information necessary to keep data understandable and usable, for yourself and others, now and in the future (e.g. in terms of documentation levels and types required, procedures used, Electronic Lab Notebooks, README.txt files, Codebook.tsv etc. where this information is recorded).</p>	<p>Project documentation (without data) will be on project folder on Onedrive (shared with project team) with a document explaining the folder structure. Standard operating procedure (SOP) will be stored as pdf in the project folder, including research methods, practices, instructions given to participants, etc., as well as a blank copy of the information letter and informed consent form.</p> <p>The SOP will also include the link to the data storage on the secure KU Leuven network drive, in which access will be password protected.</p> <p>Metadata will be created to make the data easier to find. For the majority of that data, metadata will be provided as readme, word or excel files, containing all settings and technical descriptions of the experiment and data. Data documentation will be saved in the same folder in which the corresponding datasets are saved, for example as a Readme.txt file. Metadata files will be updated throughout the experiment and checked for accuracy at the end of the experiment as well as of the FWO project.</p> <p>Manuscripts originating from the project will be stored as Word documents (.docx), and final versions will be exported to PDF format (.pdf) to preserve their integrity.</p>

<p>Will a metadata standard be used to make it easier to find and reuse the data?</p> <p>If so, please specify which metadata standard will be used. If not, please specify which metadata will be created to make the data easier to find and reuse.</p> <p><i>REPOSITORIES COULD ASK TO DELIVER METADATA IN A CERTAIN FORMAT, WITH SPECIFIED ONTOLOGIES AND VOCABULARIES, I.E. STANDARD LISTS WITH UNIQUE IDENTIFIERS.</i></p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p> <p>If yes, please specify (where appropriate per dataset or data type) which metadata standard will be used:</p> <p>If no, please specify (where appropriate per dataset or data type) which metadata will be created:</p> <p>Metadata will be created to make the data easier to find. For the majority of that data, metadata will be provided as readme, word or excel files, containing all settings and technical descriptions of the experiment and data. Text documents and Excel files stored within each experiment folder in the KU Leuven L-Drive will respectively contain guidelines describing data collection/analysis methods and all relevant metadata to ensure the reusability of the data and the reproducibility of any further data generation. Data documentation will be saved in the same folder in which the corresponding datasets are saved, for example as a Readme.txt file. Metadata files will be updated throughout the experiment and checked for accuracy at the end of the experiment as well as of the FWO project.</p> <p>Manuscripts originating from the project will be stored as Word documents (.docx), and final versions will be exported to PDF format (.pdf) to preserve their integrity.</p>
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4. Data Storage & Back-up during the Research Project

Where will the data be stored?	<p>Upon data collection/preprocessing, temporary copies of the data may primarily be stored in the KU Leuven-managed personal computer of the postdoctoral researcher. A copy of the data will be immediately uploaded to the KU Leuven Large Volume Storage space (L-Drive) for long-term preservation and backup. REDCap will be used to capture study related data. The following data will be collected in the eCRF: personal data (type CP, age, sex, and functional profile), study data (Q-interactive and Q-digital data, Tobii Pro Lab data, Kubios Scientific HRV data, MRI neuroimaging data, Cogmed data, and questionnaires).</p>
<p>How will the data be backed up?</p> <p><i>WHAT STORAGE AND BACKUP PROCEDURES WILL BE IN PLACE TO PREVENT DATA LOSS? DESCRIBE THE LOCATIONS, STORAGE MEDIA AND PROCEDURES THAT WILL BE USED FOR STORING AND BACKING UP DIGITAL AND NON-DIGITAL DATA DURING RESEARCH.⁶</i></p> <p><i>REFER TO INSTITUTION-SPECIFIC POLICIES REGARDING BACKUP PROCEDURES WHEN APPROPRIATE.</i></p>	<p>For RedCap required back-up procedures are in place, already used by the Neurotechnology Lab in previous research projects.</p> <p>Back-up of the data on the KU Leuven L-Drive secure network will be provided with automatic daily backup procedures (managed, maintained, and backed up by KU Leuven IT services). Additionally, a mirror of the data is provided in a second ICTS data centre for business continuity or disaster recovery purposes.</p>
<p>Is there currently sufficient storage & backup capacity during the project? If yes, specify concisely. If no or insufficient storage or backup capacities are available, then explain how this will be taken care of.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, please specify concisely:</p> <p>The Neurotechnology Lab subscribed to 5TB+ Large Volume Storage ; This KU Leuven L-Drive has sufficient storage capacity for the outlined project.</p>

⁶ Source: Ghent University Generic DMP Evaluation Rubric: <https://osf.io/2z5g3/>

<p>How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?</p> <p><i>CLEARLY DESCRIBE THE MEASURES (IN TERMS OF PHYSICAL SECURITY, NETWORK SECURITY, AND SECURITY OF COMPUTER SYSTEMS AND FILES) THAT WILL BE TAKEN TO ENSURE THAT STORED AND TRANSFERRED DATA ARE SAFE. ⁶</i></p>	<p>Participant identities will be linked to data using an alphanumeric code. The separate and uniquely double pass-word coded "Subject Identification Code List", which matches identifying codes with the subjects' names, will be managed by the principle investigator (EM) and stored separately, using the Digital vault for private data service of the ICTS, KU Leuven. This system involves a secure and operating system in ICTS's special, secure environment for private data.</p> <p>Access via RedCap will only be provided to authorized persons of the study team.</p> <p>Data stored on KU Leuven-managed personal computers are protected via password access to the computers, as set up by the KU Leuven IT Department. Off-site access to L-Drive data is available from KU Leuven personal computers and data access points, and is password protected. The only authorized people to have access will be the PI and the postdoctoral researcher of this project (FWO fellow).</p>
<p>What are the expected costs for data storage and backup during the research project? How will these costs be covered?</p>	<p>The annual cost of L-Drive storage per 5TB of storage space per year is around 500 euro. This cost and capacity include the performance of mirror copies of the stored data, for safety backup purposes. We expect that 5 TB will be sufficient to store all data generated as part of the project. These costs will be covered by the budget of the PI and if more storage is needed, the FWO budget can cover it.</p>

5. Data Preservation after the end of the Research Project

Which data will be retained for at least five years (or longer, in agreement with other retention policies that are applicable) after the end of the project? In case some data cannot be preserved, clearly state the reasons for this (e.g. legal or contractual restrictions, storage/budget issues, institutional policies...).	All study data described in section 2 will be preserved for at least 5 years, in clearly labelled password-protected folders containing both raw and processed data.
Where will these data be archived (stored and curated for the long-term)?	All study data will be archived on the university's central servers (with automatic back-up procedures) (K-drive). Procedure of archiving the data for the long-term will follow any current or updated guidelines set up by KU Leuven.
What are the expected costs for data preservation during the expected retention period? How will these costs be covered?	For the final year of the project an additional part in the budget is foreseen for data archiving (Kdrive) for a period of minimal 10 years. The expected costs are €12,84/year/100Gb.

6. Data Sharing and Reuse

<p>Will the data (or part of the data) be made available for reuse after/during the project? Please explain per dataset or data type which data will be made available.</p> <p><i>NOTE THAT 'AVAILABLE' DOES NOT NECESSARILY MEAN THAT THE DATA SET BECOMES OPENLY AVAILABLE, CONDITIONS FOR ACCESS AND USE MAY APPLY. AVAILABILITY IN THIS QUESTION THUS ENTAILS BOTH OPEN & RESTRICTED ACCESS. FOR MORE INFORMATION: https://wiki.surfnet.nl/display/standards/info-eu-repo/#infoeurepo-accessrights</i></p>	<p> <input checked="" type="checkbox"/> Yes, in an Open Access repository <input checked="" type="checkbox"/> Yes, in a restricted access repository (after approval, institutional access only, ...) <input type="checkbox"/> No (closed access) <input type="checkbox"/> Other, please specify: </p> <p>Datasets (or part of the data) will be made available in an Open Access repository and upon request by mail. All requests and approvals for reuse of data other than those deposited in open-access repositories will be assessed on a case-by-case basis by the PI (Elegast Monbaliu).</p>
<p>If access is restricted, please specify who will be able to access the data and under what conditions.</p>	<p>Datasets that will be deemed with restricted availability will be accessible only by the PI and the postdoctoral researcher.</p>
<p>Are there any factors that restrict or prevent the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)? Please explain per dataset or data type where appropriate.</p>	<p> <input checked="" type="checkbox"/> Yes, privacy aspects <input type="checkbox"/> Yes, intellectual property rights <input type="checkbox"/> Yes, ethical aspects <input type="checkbox"/> Yes, aspects of dual use <input type="checkbox"/> Yes, other <input type="checkbox"/> No </p> <p>If yes, please specify:</p> <p>Files identifying the included subjects will not be shared under any (currently known) circumstances.</p>

<p>Where will the data be made available? If already known, please provide a repository per dataset or data type.</p>	<p>In an Open Access repository and upon request by mail.</p> <p>All requests and approvals for reuse of data other than those deposited in open-access repositories will be assessed on a case-by-case basis by the PI.</p>
<p>When will the data be made available?</p> <p><i>THIS COULD BE A SPECIFIC DATE (DD/MM/YYYY) OR AN INDICATION SUCH AS 'UPON PUBLICATION OF RESEARCH RESULTS'.</i></p>	<p>Upon publication of the research results</p> <p>Publications (journal articles in reputable academic journals) including key findings and their interpretation will be available upon completion of the project or its main milestones. Relevant raw data will at that same moment be made available in well-established open-access data repositories.</p>
<p>Which data usage licenses are you going to provide? If none, please explain why.</p> <p><i>A DATA USAGE LICENSE INDICATES WHETHER THE DATA CAN BE REUSED OR NOT AND UNDER WHAT CONDITIONS. IF NO LICENCE IS GRANTED, THE DATA ARE IN A GREY ZONE AND CANNOT BE LEGALLY REUSED. DO NOTE THAT YOU MAY ONLY RELEASE DATA UNDER A LICENCE CHOSEN BY YOURSELF IF IT DOES NOT ALREADY FALL UNDER ANOTHER LICENCE THAT MIGHT PROHIBIT THAT.</i></p> <p><i>EXAMPLE ANSWER: E.G. "DATA FROM THE PROJECT THAT CAN BE SHARED WILL BE MADE AVAILABLE UNDER A CREATIVE COMMONS ATTRIBUTION LICENSE (CC-BY 4.0), SO THAT USERS HAVE TO GIVE CREDIT TO THE ORIGINAL DATA CREATORS." ⁷</i></p>	<p>Data from the project that can be shared will be made available under a creative commons attribution license (CC-BY-4.0), so that users have to give credit to the original data creators.</p>

⁷ Source: Ghent University Generic DMP Evaluation Rubric: <https://osf.io/2z5g3/>

<p>Do you intend to add a PID/DOI/accession number to your dataset(s)? If already available, please provide it here.</p> <p><i>INDICATE WHETHER YOU INTEND TO ADD A PERSISTENT AND UNIQUE IDENTIFIER IN ORDER TO IDENTIFY AND RETRIEVE THE DATA.</i></p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes:</p> <p>The intention is to add a DOI to the dataset(s) and make the dataset (or part of the data) available in open access repository.</p>
<p>What are the expected costs for data sharing? How will these costs be covered?</p>	<p>Costs for data sharing will be discussed with collaborators on a case-by-case basis.</p>

7. Responsibilities

Who will manage data documentation and metadata during the research project?	The postdoc researcher (Saranda Bekteshi) associated with this project will be responsible for data documentation & metadata, under supervision of the PI (Elegast Monbaliu).
Who will manage data storage and backup during the research project?	The postdoc researcher (Saranda Bekteshi) will be primarily responsible for collecting/generating data, and for correct documentation and upload onto the L-Drive storage space. The KU Leuven IT department will be responsible for maintenance and back up of the L-Drive data storage space.
Who will manage data preservation and sharing?	The postdoc researcher and the PI will jointly manage data preservation and sharing during the project period (until September 2025). After the project is finished, the PI will be responsible for ensuring data preservation, reuse, and sharing.
Who will update and implement this DMP?	The postdoc researcher and the PI share the responsibility of updating & implementing this DMP.