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	**Ward Deferm https://orcid.org/0009-0003-0219-8970**
Contributor name(s) (+ ORCID) & roles	**Bart Boets https://orcid.org/0000-0002-4718-667X, Principal investigator**
Project number[1] & title	Unraveling self- and co-regulation dynamics in dysregulated infants and families: A multi-modal investigation from the lab to the home
Funder(s) GrantID[2]	FWO fellowship 11A1L25N
Affiliation(s)	☐ **KU Leuven** ☐ Universiteit Antwerpen ☐ **Universiteit Gent** ☐ Universiteit Hasselt ☐ Vrije Universiteit Brussel ☐ Other: Provide ROR[3] identifier when possible:

[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.

[3] Research Organization Registry Community. https://ror.org/

Please provide a short project description	The transition from complete dependence on parental co-regulation to infant self-regulation constitutes a major developmental task, shaping children's future emotional, cognitive, and behavioral outcomes. Conversely, early regulation problems (RP) often precede emerging psychopathology and later mental health challenges. Despite their significance, the mechanistic understanding of these atypical infant and family regulatory dynamics remains limited, with most studies focusing on short mother-child interactions in controlled lab settings. This project signifies a paradigm shift, employing innovative methodologies to delve into the micro-dynamics of self- and coregulation (problems). Utilizing dyadic/triadic multimodal biobehavioral measurements in a lab setting and during day-long naturalistic interactions at home, I aim to objectively operationalize the concepts of self- and co-regulation within a comprehensive biobehavioral synchrony framework. I will investigate self- and co-regulation dynamics in dysregulated infants and families enrolled in an intensive intervention program, as compared to typically developing controls. Furthermore, I will go beyond classical mother-infant interaction by also including fathers, allowing me to assess triadic attunement among the family members. The project will enhance our understanding of self-and coregulation dynamics and uncover the mechanisms of RP, offering innovative tools for clinical populations.

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 data [4].

				Only for digital data	*Only for digital data*	*Only for digital data*	*Only for physical data*
Dataset Name	Description	New or Reused	Digital or Physical	Digital Data Type	Digital Data Format	Digital Data Volume (MB, GB, TB)	Physical Volume
ICF_CO_PRIME	Informed consent forms	☒ Generate new data	☐ Digital ☒ Physical				Documents of +-10 pages for each participant
Logbook_CO_PRIME	During the lab and follow-up sessions, annotations regarding data collection will be made on a designated worksheet (on paper).	☒ Generate new data	☐ Digital ☒ Physical				2 documents of 1 page for each participant
Digit_Logbook_CO_PRIME	Lab session logbook (digital versión)	☒ Generate new data	☒ Digital	☒ Textual ☒ Other: Observational	.csv .xlsx .pdf	☒ < 1 GB	
Pseudonomyz	Names of	☒ Generate new	☒ Digital	☒ Textual	.csv .xlsx	☒ < 1 GB	

[4] Add rows for each dataset you want to describe.

ation_CO_PRIME	included participants Will be pseudonymized using codes	data		☒ Other: Observational	. pdf		
Demographics_CO_PRIME	Participant data regarding SUBJECT_ID, age, gender, family constellation, SES. This will be collected during the first lab visit	☒ Generate new data	☒ Digital	☒ Textual ☒ Other: Observational	. csv . xlsx . pdf	☒ < 1 GB	
Questionaires_CO_PRIME	At both lab visits, questionnaires will be administered using REDCAP.	☒ Generate new data	☒ Digital	☒ Textual ☒ Other: Observational		☒ < 1 GB	
Physiology	During the lab visits and follow-up sessions at Kleine K, measures of electrocardiogra	☒ Generate new data	☒ Digital	☒ Other: Observational	. acq	☒ < 1 TB	

	phy (ECG), Galvanic skin conductance, and respiratory rate will be collected of the infant, parent and therapist.						
Video	Video data will be recorded of the parent and infant throughout all lab and follow up sessions.	☒ Generate new data	☒ Digital	☒ Other: Observational	.acq .mp4	☒ < 5 TB	
Home_Recordings	During the home recordings audio, ECG, proximity and location will be tracked of mother, father and infant for +-7 hours	☒ Generate new data	☒ Digital	☒ Other: Observational	.csv .mp3	☒ < 5 TB	

Guidance: *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.* *Examples of data types: observational (e.g. survey results, sensor readings, sensory observations); experimental (e.g. microscopy, spectroscopy, chromatograms, gene sequences); compiled/aggregated data[5] (e.g. text & data mining, derived variables, 3D modelling); simulation data (e.g. climate models); software, etc.* *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.* *digital data volume: Please estimate the upper limit of the volume of the data per dataset or data type.* *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).*	
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.	Not applicable
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.	☒ Yes, human subject data ☐ Yes, animal data ☐ Yes, dual use ☐ No If yes, please describe: Only information relevant for the project's research questions will be collected. Sensitive personal data will be de-identified and pseudonymized, and will be stored and processed in coded form.

[5] These data are generated by combining multiple existing datasets.

Will you process personal data[6]? 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.	☒ Yes ☐ No If yes: - Short description of the kind of personal data that will be used: - The project involves the collection of a broad range of multimodal data, including participant characteristics (questionnaires, clinical ratings, …), dual physiology recordings (skin conductance, heart rate, respiration recording), video and audio recordings of infant and parent during interactions, behavioral data, and home recording data. This data will all be pseudonymized. Personal data used for organizing the research (i.e. name, phone number, e-mail address) will not be included in the analysis and will be stored separately from the research data. - Privacy Registry Reference: G-2024-8380 (PRET)
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.	☐ Yes ☒ No If yes, please comment:

[6] See Glossary Flemish Standard Data Management Plan

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.	☐ Yes ☒ No If yes, please explain:
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.	☐ Yes ☒ No If yes, please explain:

3. Documentation and Metadata

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).	We will create a separate folder on a KU leuven mango project that contains the following information: 1. Readme.xlsx: In this document, the first tab will contain a table of content, furthermore we will note which researchers were involved in the collection of the data (e.g., master students), information regarding the ethical approval (reference number & institution), a short overview of the respective study experiments or questionnaires. 2. visit_overview.xlsx: In this document, we will provide pseudonymized information about all participants that were enrolled in the study, visit dates, and whether they completed all experiments/questionnaires or dropped-out/whether there was equipment failure. 3. Folder with all the study documents: Ethical application and approval, study protocol, study manual with the instructions that were given to participants, informed consent, as well as the PDF of all questionnaires. 4. Pre-processing documents: Comprise the very raw data (pseudonymized) and a manual with instructions to clean and (pre-)process the data. These documents will never contain sensitive (identifiable) participants information such as names, contact details, etc.
Will a metadata standard be used to make it easier to **find and reuse the data**? 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. *REPOSITORIES COULD ASK TO DELIVER METADATA IN A CERTAIN FORMAT, WITH SPECIFIED ONTOLOGIES AND VOCABULARIES, I.E. STANDARD LISTS WITH UNIQUE IDENTIFIERS.*	☐ Yes ☒ No If yes, please specify (where appropriate per dataset or data type) which metadata standard will be used: If no, please specify (where appropriate per dataset or data type) which metadata will be created: The metadata standard which can be found via www.FAIRsharing.org will not be used. However, within the lab, Readme files can be consulted to gather all relevant information. Regarding data-sharing repositories, metadata will be provided according to guidelines provided by the respective platforms.

4. Data Storage & Back-up during the Research Project	
Where will the data be stored?	☐ Shared network drive (J-drive) ☐ Personal network drive (I-drive) ☒ OneDrive (KU Leuven) ☐ Sharepoint online ☐ Sharepoint on-premis ☒ Large Volume Storage ☐ Digital Vault ☒ Other: ManGo
How will the data be backed up? *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.*[7] *Refer to institution-specific policies regarding backup procedures when appropriate.*	Digital documents will be digitally backed up on BIOMED L-Drive for large volume storage (secure KU Leuven facility for archiving) and MANGO storage environment. Paper documents will be scanned and digitally backed up on BIOMED L-Drive for large volume storage (secure KU Leuven facility for archiving), and MANGO storage environment.

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

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.	☒ Yes ☐ No If yes, please specify concisely: There is sufficient space for all types of data on both the L drive and the MANGO environment, both allow to extend the storage capacity if necessary If no, please specify:
How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons? *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.* [7]	The personal nature of OneDrive ensures that files that are not explicitly shared, are not accessible to anyone else. As such, a separate folder will be created and encrypted for the current dataset. Only the PI and registered collaborating researchers will have access to this folder via the encryption key. The KU Leuven network drives (e.g. L-drive) and Mango environment are incorporated within secured KU Leuven environments, are password-protected (including smartphone-based multi-factor identification) and are only accessible by registered collaborating researchers. Only the PI can request access to the network drive and Mango for study personnel.
What are the expected costs for data storage and backup during the research project? How will these costs be covered?	The OneDrive (500gB) comes free of charge for students and personnel of KU Leuven. The Department of Neurosciences provides our research group (Center for Developmental Psychiatry) with an L-drive. As such, costs will be covered by the department. The mango environment has a yearly cost of 35€ per TB

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 data will be preserved for 10 years according to KU Leuven RDM policy
Where will these data be archived (stored and curated for the long-term)?	**Long term data storage will take place on the L drive.**
What are the expected costs for data preservation during the expected retention period? How will these costs be covered?	**Costs will be covered by the principal investigator**

6. Data Sharing and Reuse	
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. *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*	☐ Yes, in an Open Access repository ☒ Yes, in a restricted access repository (after approval, institutional access only, …) ☐ No (closed access) ☐ Other, please specify:
If access is restricted, please specify who will be able to access the data and under what conditions.	
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.	☐ Yes, privacy aspects ☐ Yes, intellectual property rights ☐ Yes, ethical aspects ☐ Yes, aspects of dual use ☐ Yes, other ☐ No If yes, please specify:

Where will the data be made available? If already known, please provide a repository per dataset or data type.	Only published data (and associated scripts) will be available in the form of publications or other dissemination of scientific work. All data will be pseudonymized when disseminated. More data can be made available or shared after permission of the responsible person (prof. Bart Boets). Non-published data will remain confidential until a final decision on publication of the data has been taken. Data can be reused by direct colleagues, after consultation and approval of the head of CDP (prof. Bart Boets). External researchers will have to motivate why they want access to the data. When this data is being used by other researchers, they are required to give credit to the original data creators.
When will the data be made available? *This could be a specific date (dd/mm/yyyy) or an indication such as 'upon publication of research results'.*	**Upon publication of research results**
Which data usage licenses are you going to provide? If none, please explain why. *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.* *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."* [8]	CC-BY 4.0

[8] Source: Ghent University Generic DMP Evaluation Rubric: https://osf.io/2z5g3/

Do you intend to add a PID/DOI/accession number to your dataset(s)? If already available, please provide it here. *INDICATE WHETHER YOU INTEND TO ADD A PERSISTENT AND UNIQUE IDENTIFIER IN ORDER TO IDENTIFY AND RETRIEVE THE DATA.*	☒ Yes ☐ No If yes: a PID will be added upon deposit in a data repository
What are the expected costs for data sharing? How will these costs be covered?	Given that most data repositories are free of charge, no costs are expected for data sharing.

7. Responsibilities	
Who will manage data documentation and metadata during the research project?	Ward Deferm (PhD student) will be responsible for data documentation and metadata, under supervision of principal investigator Bart Boets
Who will manage data storage and backup during the research project?	Data management, storage and back up will be performed by Ward Deferm under supervision of principal investigator Bart Boets, and with delegation to the dedicated data manager Dr. Wampers of the Psychiatry Research Group.
Who will manage data preservation and sharing?	The PI (Bart Boets) will be responsible for ensuring data preservation and sharing, with delegation to the dedicated data manager Dr. Wampers of the Psychiatry Research Group.
Who will update and implement this DMP?	Ward Deferm (PhD student) will be responsible for updating and implementing this data management plan.