
Real-time detection of impendent depressive episodes using statistical process control

A Data Management Plan created using DMPonline.be

Creators: Evelien Schat, Eva Ceulemans

Affiliation: KU Leuven (KUL)

Template: KU Leuven BOF-IOF

Grant number / URL: PDMT2/23/019

ID: 203737

Start date: 01-10-2023

End date: 30-09-2024

Project abstract:

Depression is a widespread mental health condition with dire consequences for the individual and society. Detection of early warning signs of depression is therefore of great importance, as it allows for timely intervention. Statistical process control (SPC) has recently been introduced in psychopathology, to monitor a person's affective experiences in real-time and signal when meaningful changes in mood occur. While initial studies show the potential of SPC in early detection of depression, several challenges currently limit its usability in practice. This project aims to address these challenges in the following ways. First, we will deal with outliers and leverage group data to derive an accurate, normal range of affective experiences. Second, we will reduce participant burden when monitoring for meaningful changes in mood, and decrease the number of falsely detected changes.

Last modified: 20-12-2023

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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.

Dataset name / ID	Description	New or reuse	Digital or Physical data	Data Type	File format	Data volume	Physical volume
		Indicate: E(xisting) or N(ew)	Indicate: D(igital) or P(hysical)	Indicate: Audiovisual Images Sound Numerical Textual Model SOftware Other (specify)		Indicate: <1GB <100GB <1TB <5TB >5TB NA	
Analytical syntaxes (WP1)	R syntaxes for computing indices, analyzing, and pre-processing data	N	D	SO	.R, .Rmd	<1GB	
Generating syntaxes (WP1)	R syntaxes for generating data and doing simulations	N	D	SO	.R, .Rmd	<1GB	
Simulated data (WP1)	Outcomes of previous data source	N	D	N	.RData, .rda	<1GB	

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:

/

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, refer to specific datasets or data types when appropriate and provide the relevant ethical approval number.

- No

Will you process personal data? If so, please refer to specific datasets or data types when appropriate and provide the KU Leuven or UZ Leuven privacy register number (G or S number).

- No

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.

- No

Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material or Data transfer agreements, Research collaboration agreements)? If so, please explain in the comment section to what data they relate and what restrictions are in place.

- No

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 in the comment section to what data they relate and which restrictions will be asserted.

- No

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).

The simulated data will be generated and analyzed by means of codes that will be stored together with the simulation results (see data description), using a folder structure and files with self-explaining names. We will also add a README.txt file, to further explain the structure and files of the simulations.

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.

- No

The simulated data will be generated and analyzed by means of codes that will be stored together with the simulation results (see data description), using a folder structure and files with self-explaining names. We will also add a README.txt file, to further explain the structure and files of the simulations.

Data Storage & Back-up during the Research Project

Where will the data be stored?

- Sharepoint online

How will the data be backed up?

- Standard back-up provided by KU Leuven ICTS for my storage solution

Is there currently sufficient storage & backup capacity during the project?

If no or insufficient storage or backup capacities are available, explain how this will be taken care of.

- Yes

How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

All ICT solutions at KU Leuven are subject to the university-wide ICT information security standards. The faculty's ICT service organizes the raw network storage it procures from central ICT services in such a way that access permissions are limited, fixed, delegated to and audited by data managers who do not need to have an IT background. Digital data will be stored in Sharepoint online library.

What are the expected costs for data storage and backup during the research project? How will these costs be covered?

The costs for Sharepoint online library are low and covered by KU Leuven.

Data Preservation after the end of the Research Project

Which data will be retained for 10 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)?

- Other (specify below)

The data will be archived in Sharepoint online library.

What are the expected costs for data preservation during the expected retention period? How will these costs be covered?

The costs for Sharepoint online library are low and covered by KU Leuven.

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.

- Yes, as restricted data (upon approval, or institutional access only)

Simulated data will be made available upon request by other researchers. Code will be uploaded to the Open Science Framework.

If access is restricted, please specify who will be able to access the data and under what conditions.

Simulated data will be made available upon request by other researchers. Code will be uploaded to the Open Science Framework.

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.

- No

Where will the data be made available?

If already known, please provide a repository per dataset or data type.

- Other data repository (specify below)

Simulated data will be made available upon request by other researchers. Code will be uploaded to the Open Science Framework.

When will the data be made available?

- Upon publication of research results

Which data usage licenses are you going to provide?

If none, please explain why.

- Other (specify below)

Simulated data will be made available upon request by other researchers. Code will be uploaded to the Open Science Framework.

Do you intend to add a persistent identifier (PID) to your dataset(s), e.g. a DOI or accession number? If already available, please provide it here.

- Yes, a PID will be added upon deposit in a data repository

Code will be uploaded to the Open Science Framework.

What are the expected costs for data sharing? How will these costs be covered?

Sharing data on the Open Science Framework is free.

Responsibilities

Who will manage data documentation and metadata during the research project?

Evelien Schat and Eva Ceulemans

Who will manage data storage and backup during the research project?

Evelien Schat, Eva Ceulemans and Kristof Meers

Who will manage data preservation and sharing?

Evelien Schat and Eva Ceulemans

Who will update and implement this DMP?

Evelien Schat and Eva Ceulemans