Plan Overview

A Data Management Plan created using DMPonline.be

Title: Emotion dysfunction in children with ADHD: a cross-cultural investigation

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Principal Investigator: Dieter Baeyens

Data Manager: Canmei Xu, Dieter Baeyens

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Affiliation: KU Leuven (KUL)

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Template: KU Leuven BOF-IOF

Principal Investigator: Dieter Baeyens

Data Manager: Canmei Xu, Dieter Baeyens

Project abstract:

Attention-deficit/hyperactivity disorder (ADHD) is characterized by core symptoms of inattention, hyperactivity, and impulsivity, with recent studies proposing emotional dysregulation (ED) could be another core symptom. ED in children with ADHD involves heightened emotional reactivity and impaired emotion regulation. Studies have indicated that ED in children with ADHD has far-reaching effects, such as increased internalizing symptoms, social impairment, and overall functional challenges. As societies become increasingly diverse, mental health professionals face the challenge of serving children from various cultural backgrounds. Since the research on ED has primarily been based on evidence from Western countries, questions arise regarding its reliability across diverse cultures. Thus it is important to examine whether and how ED is expressed in children with ADHD across cultures. This is especially pertinent considering the rich cross-cultural findings that demonstrate variations in emotion expression and regulation. Identifying ED across cultures is essential for understanding the cultural and biological underpinnings of ED in children with ADHD, and for promoting equitable and tailored mental health care for multicultural populations.

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Emotion dysfunction in children with ADHD: a cross-cultural investigation

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: **N**(ew data) or **E**(xisting data)*	Indicate: **D**(igital) or **P**(hysical)	Indicate: **A**udiovisual **I**mages **S**ound **N**umerical **T**extual **M**odel **SO**ftware Other (specify)		Indicate: <1GB <100GB <1TB <5TB >5TB NA	
Informed consents	Informed consents participants	New data	Digital	Textual	Observational.pdf	<1GB	None, as this will be collected online.
Audio interviews (n=40)	Audio files of the interviews	New data	Digital	Sound	Observational.wav; Observational.mp3	<100GB	None, as this will be collected online.
Transcripts interviews	Pseudonymized transcripts of audiofiles of the interviews	New data	Digital	Textual	Observational.doc	<1GB	None, as this will be collected online.
Notes	Notes taken during data collection	New data	Digital	Textual	Observational.doc	<1GB	None, as this will be collected online.
QDA	Qualitative data analysis documents in NVivo	New data	Digital	Textual	Observational.nvp	<1GB	None, as this will be collected online.
Results	The themes, meta-themes, and transcripts generated from NVivo, along with discussions between the coders.	New data	Digital	Textual	Observational.doc	<1GB	None, as this will be collected online.
Questionnaires	Empty questionnaires to be filled in by participants	New data	Digital (digitized physical copies)	Textual	Observational.pdf	<1GB	None, as this will be collected online.

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:

No existing data will be reused.

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.

- Yes, human subject data (Provide SMEC or EC approval number below)

PRET G-number in KU Leuven: G-2024-8591.
Parents will be interviewed by trained professionals, using thoughtfully crafted questions that align with the study's objectives.

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).

- Yes (Provide PRET G-number or EC S-number below)

PRET G-number in KU Leuven: G-2024-8591.
We will ask participants only the bare minimum regarding personal data. Parents will be invited to report their child's ADHD diagnosis, treatment, and medication history, as well as basic personal information (e.g., the child's age, gender, cultural and ethnic background, and family socioeconomic status). While we could omit questions about diagnosis, it is crucial to understand the child's diagnosis and treatment history, as these factors can influence the manifestation of emotional dysregulation. We will limit the data collection to what is necessary for the purposes of this study. The personal information and content provided by participants in this study will be kept entirely confidential. Personal data will be pseudonymized using a code and stored in an electronic file that can only be accessed with a password. Access to this electronic file will be restricted to the principal investigator, Professor Dieter Baeyens, and his research team. Furthermore, the data will be stored on a secure drive at KU Leuven, accessible only to the key researchers involved in this project. This protocol has been shown to significantly reduce privacy risks for the participants.

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).

To ensure that the qualitative interview data remains understandable and usable both now and in the future, the following approach will be adopted:

1. Data Collection and Documentation:
We will create a dedicated document to record how data is collected, stored, and processed. This document will detail the plan for transcribing audio recordings into text, and the steps for data analysis. This systematic record will ensure transparency and traceability throughout the data handling process.

2. Audio Recording and Transcription:
All interviews will be recorded using high-quality digital audio devices in common formats such as MP3 or WAV. The audio files will be named using pseudonymized codes and interview dates to protect participant privacy. Recordings will be transcribed verbatim, including key non-verbal cues (e.g., pauses, laughter), and will undergo multiple rounds of verification to ensure accuracy.

3. Data Documentation:

(1) A README.txt file will accompany the dataset, providing an overview of the research background, file naming conventions, data structure, and interpretation guidelines.
(2) A codebook (Codebook.doc) will be created, documenting the coding framework, definitions of key themes, and any adjustments made during the coding process to help future researchers understand and reuse the data.
(3) Each interview will include metadata, detailing the interview date, format (online), pseudonymized demographic information of participants, and contextual notes about the interview environment to provide comprehensive background information.
(4) Data Storage and Security: All data files (audio recordings, transcriptions, and related documents) will be saved on Canmei Xu's personal network drive, accessed via a KU Leuven password-protected laptop. Additionally, data will be backed up on the KU Leuven shared network drive to ensure security and long-term preservation. Access to the data will be strictly limited to authorized personnel only.

4. Ensuring Long-Term Usability:
To enhance the usability and shareability of the data, all files will be stored in standardized formats (e.g., .txt for text files, .doc for the codebook) and organized using logical structures and consistent naming conventions. This clear documentation and systematic management will ensure that future researchers can easily access and interpret the data.

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.

- Yes

A formal metadata standard will not be used in this study, as the data will primarily consist of qualitative interview transcripts and audio recordings. However, to ensure the data is organized, understandable, and reusable, custom metadata will be created and documented thoroughly.

The following metadata will be included to facilitate data discovery and reuse:

1. Interview Metadata:

Interview ID (pseudonymized)
Date and format of the interview (online/face-to-face)
Duration of the interview
Participant demographics (age range, gender, relevant background information, all pseudonymized)
Contextual information (e.g., setting, notable interruptions, interviewer notes)

2. Data File Metadata:

File name and description
File format (e.g., MP3, WAV, TXT)
Transcription status (e.g., draft, verified, final)
Version history for both audio and transcribed files

3. Project Documentation Metadata:

README.txt file explaining the structure of the dataset, file naming conventions, and instructions for reuse
Codebook.tsv containing definitions of codes and themes used in data analysis
Description of data collection methods and ethical considerations
By providing this comprehensive metadata, we aim to ensure that the data remains accessible and meaningful for future researchers, even without adhering to a specific standardized metadata framework.

Data Storage & Back-up during the Research Project

Where will the data be stored?

- Shared network drive (J-drive)
- Personal network drive (I-drive)

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?

1. Restricted Access:
Only authorized researchers will have access to the shared OneDrive folder. Permissions will be managed to prevent unauthorized viewing, editing, or downloading of files.
2. Version Control and Audit Trails:
OneDrive automatically tracks file versions and logs all access and modifications, allowing the research team to monitor any changes and ensure data integrity.
3. Pseudonymization:
All personal identifiers will be removed or pseudonymized to protect participant confidentiality, further reducing risks in case of any data breach.

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

During the research project, the costs for data storage and backup will be minimal, as we will utilize the ICTS storage services provided by KU Leuven. For instance, we will use OneDrive, which offers secure, cloud-based storage with ample space to meet the project's data needs. These services are part of the university's IT infrastructure and do not incur additional costs for the research team.
For backup, we will also rely on the automated backup systems provided by OneDrive, which includes versioning and secure data recovery options. This ensures that all research data is regularly backed up without additional financial cost.
In case of any unexpected data storage needs or if additional storage capacity is required beyond the institutional provisions, these costs will be covered by funding allocated for research-related expenses in the project budget. However, we do not anticipate significant additional costs as the storage provided by KU Leuven is sufficient for the project's requirements.

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)?

- Shared network drive (J-drive)

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

The expected costs for data preservation during the retention period will be minimal, as we will store the data on KU Leuven's OneDrive, which provides secure and long-term cloud-based storage. This service is part of the university's IT infrastructure and does not incur additional costs for the research team.

KU Leuven's OneDrive offers adequate storage for the project's data needs and includes features like data backup, versioning, and secure access control, ensuring the preservation of data throughout the retention period. As part of the university's services, there are no additional charges for the duration of the research project and retention period.

If the project requires any additional data storage beyond the provisions already available through KU Leuven, these costs will be covered by research funding allocated for data management or other related project resources. However, we do not anticipate needing extra storage, as OneDrive provides sufficient space for the duration of the project and the retention period.

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.

- Other (specify below)

At this stage, the data will primarily be used for the purposes of this project. We are unsure whether the data will be made available for reuse after the project as it depends on the outcomes and further research directions. If any data are made available for reuse in the future, the relevant details will be shared in accordance with the university's policies and ethical guidelines. Access will be provided under appropriate conditions, ensuring privacy and confidentiality are maintained.

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

The data collected during the project will be primarily accessible to the principal investigator, Prof. Dieter Baeyens, Canmei Xu, and other authorized members of the research team. Access to the data will be restricted to ensure confidentiality and compliance with ethical guidelines.

While the intention is to share the data for future research or educational purposes, access will be limited to ensure privacy and security. Any data that may be shared or made available for reuse will be pseudonymized and will follow strict protocols to protect participants' identities.

Access to the data will be provided under the following conditions: Prof. Dieter Baeyens will have full access to the data for the duration of the project and during the data analysis phase. Other research team members will have access to specific data relevant to their part of the project, with the necessary permissions and confidentiality agreements in place. If the data is made available for reuse after the project, it will be shared under controlled access, and only external researchers who agree to the terms of use and ethical guidelines will be granted access. This will be done through the KU Leuven repository or another trusted academic platform, where the data will be pseudonymized to prevent the identification of participants. Any reuse of the data will be handled through a formal request process and will require approval from the research team and adherence to ethical guidelines.

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

Where will the data be made available?

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

- KU Leuven RDR (Research Data Repository)

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.

- CC-BY 4.0 (data)

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.

- No

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

Since the data will not be shared outside the research team due to privacy and ethical considerations, there will be no costs associated with data sharing. The data will be securely stored and accessible only to authorized members of the research team for the duration of the project. Therefore, there are no expected costs for data sharing, and the resources for storing and securing the data will be covered by the university's existing infrastructure, specifically using the KU Leuven OneDrive system, which is already provided as part of the institution's resources for research data management.

Responsibilities

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

Data documentation and metadata will be managed by the researchers generating the data, including the Fellow, Canmei Xu. The Promotor, Prof. Dieter Baeyens, will oversee the project and ensure the long-term preservation in accordance with the university's policies and ethical guidelines. The researchers will ensure that all documentation is thorough, including clear descriptions of the data collection process, storage methods, and any relevant metadata.

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

Data storage and backup will be managed by the researchers, including Fellow Canmei Xu. The data will be securely stored on KU Leuven's OneDrive, with access limited to the research team. Backup procedures will be followed to ensure the data is regularly and securely backed up. The Promotor, Prof. Dieter Baeyens, will oversee the overall data management process, ensuring that all storage and backup practices comply with the university's data protection policies and ethical guidelines.

Who will manage data preservation and sharing?

Data preservation and sharing will be managed by the researchers, including Fellow Canmei Xu. The data will be securely stored and preserved on KU Leuven's OneDrive, with access restricted to the research team. If applicable, data sharing will follow university policies and ethical guidelines, with appropriate permissions granted. The Promotor, Prof. Dieter Baeyens, will oversee the long-term preservation of the

data and ensure that data sharing, if applicable, complies with all ethical and legal standards, as well as the university's data-sharing policies.

Who will update and implement this DMP?

The Data Management Plan (DMP) will be updated and implemented by Fellow Canmei Xu, in collaboration with the Promotor, Prof. Dieter Baeyens. Canmei Xu will be responsible for the day-to-day implementation of the DMP, ensuring that data is collected, stored, and shared according to the plan. Prof. Dieter Baeyens will oversee the process and ensure compliance with institutional guidelines and ethical standards. Any necessary updates to the DMP will be made as the project progresses, and the research team will ensure that all changes are documented and implemented accordingly.