An alternative route to widespread fears: the effects of fear learning on perceptual discrimination

A Data Management Plan created using DMPonline.be

Creator: Jonas Zaman

Affiliation: KU Leuven (KUL)

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Project abstract:

Our fears do not remain specific but tend to spread across stimuli and situations, making fear generalization a key transdiagnostic mechanism underlying multiple disorders. Our recent finding
that generalized fears were associated with failures in perceptual discrimination between novel, unthreatening stimuli and threat-associated stimuli has drastically challenged existing conceptions.
Combined with research showing the malleability of perceptual discrimination by associative learning,
our work suggests an alternative perceptual route via which widespread fears may emerge. Although
the theoretical implications of these findings for generalization theories are starting to be acknowledged, systematic and translational research is needed. In a series of experimental studies,
we will: (1) investigate immediate and long-term changes in discrimination acuity solely due to fear
learning; (2) study the impact of the interplay between fear and safety learning (i.e., differential learning) on (asymmetric) changes in discrimination acuity; and (3) translate for the first time findings from animal research that demonstrated the moderating role of stimulus similarity between
safety and fear cues on changes in perceptual discrimination to humans. This project has the potential to increase our understanding of post-learning behaviors, especially as it opens up entirely
new perspectives within the field of fear generalization.

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1. 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.

				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
		Please choose from the following options: • Generate new data • Reuse existing data	*Please choose from the following options:* • Digital • Physical	*Please choose from the following options:* • Observational • Experimental • Compiled/aggregated data • Simulation data • Software • Other • NA	*Please choose from the following options:* • .por, .xml, .tab, .cvs,.pdf, .txt, .rtf, .dwg, .gml, … • NA	*Please choose from the following options:* • <100MB • <1GB • <100GB • <1TB • <5TB • <10TB • <50TB • >50TB • NA	
EXP1	WP1	Generate new data	Digital	Experimental	.cvs,.txt,.RData,.xlsx	<100MB	
EXP2	WP1	Generate new data	Digital	Experimental	.cvs,.txt,.RData,.xlsx	<100MB	
EXP3	WP2	Generate new data	Digital	Experimental	.cvs,.txt,.RData,.xlsx	<100MB	
EXP4	WP3	Generate new data	Digital	Experimental	.cvs,.txt,.RData,.xlsx	<100MB	

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:

NA

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? Describe these issues in the comment section. Please refer to specific datasets or data types when appropriate.

- Yes, human subject data

EXP 1 - ethics approval obtained (GZEK 2020-43)
EXP 2 - ethics approval pending (G-2022-5873-R2(MAR))
EXP 3 - ethics approval will be obtained prior to start of data collection
EXP 4 - ethics approval obtained (GZEK 2020-43)

Will you process personal data? If so, briefly describe the kind of personal data you will use in the comment section. Please refer to specific datasets or data types when appropriate.

- Yes

We will collect anonymized information about the participant's gender and age.
The informed consent will be signed with the participant's name and the payment form will comprise their name, address, and bank account. These will be saved in keylocked cabinets separately from the rest of the experimental data and will be destroyed after the required embargo period.

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/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

2. 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).

Raw an processed experimental data will be collected and saved per WP, including a txt file with a clear description of what the data represent and how they were generated. The name of the folder will contain the description of the WP. A .txt file explaining the naming will be maintained. In addition, the codebook will contain information on study design, sampling methodology, fieldwork, variable-level detail, and all information necessary for a secondary analyst to use the data accurately and effectively. Research methods and practices (including the informed consent process) will be fully documented as word files, as well as a blank copy of the informed consent form.

Will a metadata standard be used to make it easier to find and reuse the data? If so, please specify (where appropriate per dataset or data type) which metadata standard will be used. If not, please specify (where appropriate per dataset or data type) which metadata will be created to make the data easier to find and reuse.

- No

3. Data storage & back-up during the research project

Where will the data be stored?

The time-stamped master copy of the data will be kept on our research unit central storage facility. Copies can be made and kept on personal devices. Furthermore, a back up will be stored (publically available) on the Open Science Framework

How will the data be backed up?

The data will be backed up to one drive on a daily basis.

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

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

Data folders will be saved in an encrypted password-protected manner using Bitlocker.

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

FWO allows for part of the allocated project budget to be used to cover the cost associated with data storage (currently, these are estimated at 0 euro).

4. 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 collected data will be retained for the expected 5 year period after the end of the project.

Where will these data be archived (stored and curated for the long-term)?

The data will be stored on the university's servers (with automatic back-up procedures) for at least 5 years, conform the KU Leuven RDM policy as well as on the Open Science Framework

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

The KU Leuven offers limited free storage capacity to its employees. The size of the collected data falls within the free-offered storage capacity.

5. Data sharing and reuse

Will the data (or part of the data) be made available for reuse after/during the project? In the comment section please explain per dataset or data type which data will be made available.

- Yes, in an Open Access repository

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

NA

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 in the comment section 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.

The full dataset will be uploaded in a cvs format in the Open Science Framework on
data servers located within the EU.

When will the data be made available?

Upon publication of the research results

Which data usage licenses are you going to provide? If none, please explain why.

The full dataset and source code will be released on the Open Science Framework
under a CC-BY license on data servers located within the EU.

Do you intend to add a PID/DOI/accession number to your dataset(s)? If already available, you have the option to provide it in the comment section.

- Yes

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

None

6. Responsibilities

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

The PI: Jonas Zaman

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

The PI: Jonas Zaman

Who will manage data preservation and sharing?

The PI: Jonas Zaman

Who will update and implement this DMP?

The PI: Jonas Zaman