

This zip-folder contains the text, code, data, figures and tables for the reproducible manuscript entitled

“Robust group- but limited individual-level (longitudinal) reliability and insights into cross-phases response prediction of conditioned fear”

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Abstract:

Here we follow the call to target measurement reliability as a key prerequisite for individual-level predictions in translational neuroscience by investigating i) longitudinal reliability at the individual and ii) group level, iii) cross-sectional reliability and iv) response predictability across experimental phases. 120 individuals performed a fear conditioning paradigm twice six month apart. Analyses of skin conductance responses, fear ratings and BOLD-fMRI with different data transformations and included numbers of trials were conducted. While longitudinal reliability was generally poor to moderate at the individual level, it was good for acquisition but not extinction at the group-level. Cross-sectional reliability was satisfactory. Higher responding in preceding phases predicted higher responding in subsequent experimental phases at a weak to moderate level depending on data specifications. In sum, the results suggest the feasibility of individual-level predictions for (very) short time intervals (e.g., cross-phases) while predictions for longer time intervals may be problematic.

Folders:

- data: contains the data sets all calculation are based on and that support the presented findings
- figures: contains figures that had to be customized manually. These figures are included automatically when running the scripts
- renv: contains the activate.R file that is needed to create the R environment in which the code was written
- tables: contains tables that were created manually due to large text parts. These are not included automatically when running the R Markdown scripts, but have to be included manually after rendering the manuscript

How to render the manuscript:

- Unpack the zip-folder in a folder on your machine
- Open R and create a new R project: File -> New Project... -> Existing Directory -> Browse... -> Navigate to the folder where you unzipped the zip-folder -> Create Project
- The R package “renv” should be installed automatically (see R console)
- Stay in the R console and run `renv::restore()`
 - o This will install packages recorded in the `renv-lockfile`
- A list of packages appears which will be updated if you agree
 - o You will be asked: Do you want to proceed? [y/N]: Type “y”
- This should create the R environment in which the code was written (including installation/update of packages)
- Open the Rmd-file “00_rankStab_main.Rmd” within the R project and knit it: this is the parent-file and will run the child- and the appendix-files automatically
- The whole manuscript should be rendered (which might take a while...)
- If not: Do not hesitate to contact m.klingelhoef-jens@uke.de