Reporting Summary

Nature Portfolio wishes to improve the reproducibility of the work that we publish. This form provides structure for consistency and transparency in reporting. For further information on Nature Portfolio policies, see our Editorial Policies and the Editorial Policy Checklist.

Statistics

For all statistical analyses, confirm that the following items are present in the figure legend, table legend, main text, or Methods section.

- n/a Confirmed
- □ The exact sample size (n) for each experimental group/condition, given as a discrete number and unit of measurement
- □ A statement on whether measurements were taken from distinct samples or whether the same sample was measured repeatedly
- □ The statistical test(s) used AND whether they are one- or two-sided
  - *Only common tests should be described solely by name; describe more complex techniques in the Methods section.*
- □ A description of all covariates tested
- □ A description of any assumptions or corrections, such as tests of normality and adjustment for multiple comparisons
- □ A full description of the statistical parameters including central tendency (e.g. means) or other basic estimates (e.g. regression coefficient) AND variation (e.g. standard deviation) or associated estimates of uncertainty (e.g. confidence intervals)
- □ For null hypothesis testing, the test statistic (e.g. F, t, r) with confidence intervals, effect sizes, degrees of freedom and P value noted
  - *Give P values as exact values whenever suitable.*
- □ For Bayesian analysis, information on the choice of priors and Markov chain Monte Carlo settings
- □ For hierarchical and complex designs, identification of the appropriate level for tests and full reporting of outcomes
- □ Estimates of effect sizes (e.g. Cohen’s d, Pearson’s r), indicating how they were calculated

*Our web collection on [statistics for biologists](https://www.nature.com/stats/biologists) contains articles on many of the points above.*

Software and code

Policy information about [availability of computer code](#)

| Data collection | NeurOne Tesla with Digital-Out Option, Bittium, Finland; Simulink Real-Time, FieldTrip open-source toolbox, and customized MATLAB® scripts |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------|
| Data analysis   | SPSS version 25 (IBM), Prism® (GraphPad), Matlab (Mathworks 2017a Ltd. USA)                                                     |

For manuscripts utilizing custom algorithms or software that are not central to the research but not yet described in published literature, software must be made available to editors and reviewers. We strongly encourage code deposition in a community repository (e.g. GitHub). See the Nature Portfolio [guidelines for submitting code & software](#) for further information.

Data

Policy information about [availability of data](#)

All manuscripts must include a data availability statement. This statement should provide the following information, where applicable:

- Accession codes, unique identifiers, or web links for publicly available datasets
- A description of any restrictions on data availability
- For clinical datasets or third party data, please ensure that the statement adheres to our [policy](#)

Raw data were generated at the University of Tuebingen. Derived data supporting the findings of this study are available upon reasonable request by the corresponding author Daniel Weiss.
Human research participants

Policy information about: studies involving human research participants and Sex and Gender in Research.

Reporting on sex and gender: No differentiation between sex and/or gender was made.

Population characteristics: See above.

Recruitment: Participants were recruited either during in-patient stays or out-patient visits.

Ethics oversight: Ethics committee of the University of Tuebingen, Germany, protocol number 916/2018BO1

Note that full information on the approval of the study protocol must also be provided in the manuscript.

Field-specific reporting

Please select the one below that is the best fit for your research. If you are not sure, read the appropriate sections before making your selection.

☒ Life sciences ☐ Behavioural & social sciences ☐ Ecological, evolutionary & environmental sciences

For a reference copy of the document with all sections, see nature.com/documents/dr-reporting-summary-far.pdf

Life sciences study design

All studies must disclose on these points even when the disclosure is negative.

Sample size: Sample size of 11 patients with MEPS(condition): regular tapping asc (447) / desc (425), transition asc (58) / desc (78), freezing (59).

Data exclusions: No data were excluded from analyses.

Replication: Pilot study. Data have not yet been replicated.

Randomization: No randomization, same protocol for each participant.

Blinding: No blinding. Freezing episodes were detected visually by defined well-established objective criteria and MEP sizes were determined automatically using a Matlab algorithm.

Reporting for specific materials, systems and methods

We require information from authors about some types of materials, experimental systems and methods used in many studies. Here, indicate whether each material, system or method listed is relevant to your study. If you are not sure if a list item applies to your research, read the appropriate section before selecting a response.

Materials & experimental systems

n/a 
☒ Antibodies
☒ Eukaryotic cell lines
☒ Palaeontology and archaeology
☒ Animals and other organisms
☐ Clinical data
☒ Dual use research of concern

Methods

n/a 
☒ ChIP-seq
☒ Flow cytometry
☒ MRI based neuroimaging

Clinical data

Policy information about: clinical studies

All manuscripts should comply with the ICMJE guidelines for publication of clinical research and a completed CONSORT checklist must be included with all submissions.

Clinical trial registration: n/a.

Study protocol: no clinical trial, neurophysiological study in human bee sting, Parkinson's disease patients.
| Data collection | clinical descriptives (clinical scores) were obtained. |
|-----------------|------------------------------------------------------|
| Outcomes        | no clinical endpoint in this study, neurophysiological measures (MEP size) |