***eLife’s* transparent reporting form**

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**Sample-size estimation**

* You should state whether an appropriate sample size was computed when the study was being designed
* You should state the statistical method of sample size computation and any required assumptions
* If no explicit power analysis was used, you should describe how you decided what sample (replicate) size (number) to use

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No statistical methods were used to predetermine sample size. The relevant sample size for our work in the number of trials for which the sample size is orders of magnitude larger than needed. All the relevant information is in Methods.

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* You should report how often each experiment was performed
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Detailed about replication across animals and exclusion criteria for trials and neurons are included explicitly in the Methods section.

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* Statistical analysis methods should be described and justified
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* For each experiment, you should identify the statistical tests used, exact values of N, definitions of center, methods of multiple test correction, and dispersion and precision measures (e.g., mean, median, SD, SEM, confidence intervals; and, for the major substantive results, a measure of effect size (e.g., Pearson's r, Cohen's d)
* Report exact p-values wherever possible alongside the summary statistics and 95% confidence intervals. These should be reported for all key questions and not only when the p-value is less than 0.05.

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All relevant information is provided in Methods (statistical analyses used), and in the Results and Figure captions (results of statistical analyses).

(For large datasets, or papers with a very large number of statistical tests, you may upload a single table file with tests, Ns, etc., with reference to sections in the manuscript.)

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* Indicate how samples were allocated into experimental groups (in the case of clinical studies, please specify allocation to treatment method); if randomization was used, please also state if restricted randomization was applied
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Humans and animals performed various tasks over multiple experimental conditions. All conditions and the order they were presented were randomized across subjects and trials as described in Methods.

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