nature portfolio

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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 contains articles on many of the points above.

Software and code

Policy information about availability of computer code

Data collection	We used z-Tree to custom program and run the experiment, all the files are available on the Open Science Framework.
Data analysis	All the data and analysis files are also available on the Open Science Framework. We used R Studio for analyses. All significance tests are two tailed

For manuscripts utilizing custom algorithms or software that are 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

All the data and analysis files are available on the Open Science Framework (ref. links to: https://osf.io/h6cb3/). A full copy of the experimental instructions translated into English are included here at the end in Appendix 1.

Human research participants

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

Reporting on sex and gender	In total we had 436 participants (Female = 251; Male = 175; Other = 3; Declined to respond = 7) who were typically aged 18-25 (Under 21 = 261; 21-25 = 147; 26-30 = 13; 31-35 = 4; Over 35 = 7; Declined to respond = 4). These were self-reported responses in a post-experiment questionnaire. We used age groupings to enhance anonymity.
Population characteristics	*Describe the covariate-relevant population characteristics of the human research participants (e.g. age, genotypic information, past and current diagnosis and treatment categories). If you filled out the behavioural & social sciences study design questions and have nothing to add here, write "See above."*
Recruitment	The HEC-LABEX professional management team recruited all the participants, using ORSEE software from their extensive database of students and non-students in Lausanne. LABEX recruited the participants using the ORSEE software and excluded participants that had previously experienced any experiments with punishment. Participants were told that a level of B2 French was necessary
Ethics oversight	The HEC-LABEX ethics committee provided ethical approval. HEC-LABEX also provide the obligatory templates for the consent forms.

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/nr-reporting-summary-flat.pdf

Behavioural & social sciences study design

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

Study description	A standard behavioural economics experiment, conducted in a laboratory with computer terminals and partitions for anonymity.
Research sample	The HEC-LABES participant database. An email is sent to all eligible participants who then can click to accept or not, the authors are not involved in this process. Participants are normally students at either the University of Lausanne (UNIL) or the federal university (EPFL) which is also located on the adjoining campus.
Sampling strategy	An email is sent to all eligible participants who then can click to accept or not, the authors are not involved in this process.
Data collection	Participants enter choices using a keyboard into the computer, zTree then produces anonymous data files for the researchers.
Timing	27th September - 15th October 2021
Data exclusions	no exclusions
Non-participation	No participants dropped out
Randomization	Treatment allocation was per session. The first 20 sessions were randomized and then we realized during the experiment that we could afford 6 more. We created a schedule for all 20 sessions that made sure each treatment was only ever done once per day (we run multiple sessions per day) and that each treatment was ran in different time slots. However due to struggles with recruitment by the laboratory management team in the first week (it was too early in the semester) we had to postpone most sessions in the first week, and so we deviated from the schedule to ensure that we ran all 5 treatments at least once before progressing. The experimenter knows the treatment for that particular session, but has no/minimal interaction with the participants who make their decisions in private computer terminals.

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	Involved in the study
☒	☐ Antibodies
☒	☐ Eukaryotic cell lines
☒	☐ Palaeontology and archaeology
☒	☐ Animals and other organisms
☒	☐ Clinical data
☒	☐ Dual use research of concern

Methods

n/a	Involved in the study
☒	☐ ChIP-seq
☒	☐ Flow cytometry
☒	☐ MRI-based neuroimaging