

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

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|-------------------------------------|-------------------------------------|--|
| ☐ | ☒ | 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
<i>Only common tests should be described solely by name; describe more complex techniques in the Methods section.</i> |
| ☐ | ☒ | 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
<i>Give P values as exact values whenever suitable.</i> |
| ☒ | ☐ | 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 | For Study 1, we used Qualtrics version October 2019, a web-based service for creating surveys and collecting data. We used Mechanical Turk (version October 2019) for subject recruitment. For Study 2, we used Qualtrics version March 2022 for survey deployment and data collection. Participants for Study 2 were recruited from Prolific in March 2022. |
| Data analysis | All data analysis was done in SPSS version 28 |

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](#)

Data for Study 1 is not available to anyone other than the research team due to language included on the consent form, therefore requests for Study 1 data cannot

Human research participants

Policy information about [studies involving human research participants and Sex and Gender in Research](#).

Reporting on sex and gender	Sex and gender were not considered in the study design. Participants were asked to self-report their gender for both studies. We include two correlation matrices in supplementary information on individual relationships between sociodemographic variables and recycling bias, which include gender as a variable.
Population characteristics	Study 1: After exclusions, 848 participants remained in our sample. Median age was 35.0 years and 46.1% of participants were female. Median income was between \$50,000 – \$79,999 and the majority of participants had a college degree or higher (65.3%). Politically, 48.9% self-identified as liberal (sum of very liberal, liberal, and slightly liberal categories), 20.5% indicated they were politically moderate, and 30.6% indicated they were conservative (sum of very conservative, conservative, and slightly conservative categories). Study 2: Study 2 was comprised of a representative sample of participants (N = 473, based on simplified U.S. census data and balanced on sex, age, and ethnicity). Median age was 46.0 years and 51.2% (242) of participants were female. Median income was between \$50,000 – \$79,999 and the majority of participants (59.4%) had a college degree or higher. Politically, 58.1% self-identified as liberal (sum of very liberal, liberal, and slightly liberal categories), 17.1% as moderate, and 24.7% as conservative (sum of very conservative, conservative, and slightly conservative categories).
Recruitment	For Study 1, Participants were recruited and completed a Qualtrics survey via Amazon Mechanical Turk (MTurk, www.mturk.com) in October of 2019 (N = 995). Recruitment was limited to self-selecting participants on the platform, which may cause some selection bias. However, participant pool was sufficiently large to account for such bias. For Study 2, a representative sample of participants (N = 473, based on simplified U.S. census data and balanced on sex, age, and ethnicity) was recruited via Prolific (www.prolific.com) and completed a Qualtrics survey in March of 2022. This sample was limited to active users on Prolific and therefore may cause some selection bias, however the sample was sufficiently large to account for such bias.
Ethics oversight	Study 1: This research was approved by the University of Virginia’s Internal Review board and pre-registered through the Open Science Foundation (osf.io). Study 2: This research was approved by Indiana University’s Internal Review Board and the University of Virginia’s Internal Review board. Informed consent was received from all participants.

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	Mixed methods (qualitative and quantitative descriptive).
Research sample	Our research includes two separate studies. Study 1 is not representative and is a sample of convenience. Study 2 is a representative sample based on simplified U.S. census data and balanced on sex, age, and ethnicity. We used a sample of convenience for Study 1 as it is more exploratory in nature. We use a representative sample in Study 2 to confirm our Study 1 results and to investigate other interesting relationships in the data. In the Methods, we compare our sample to the US population, and report some biases: our sample for Study 1 and Study 2 is more educated and more liberal than the adult US population.
Sampling strategy	Study 1 was a convenience sample. Study 2 was based on simplified US census data and balanced on sex, age and ethnicity. Both studies used sample sizes informed by target sample sizes from past work (Attari et al., 2010 which used 505 participants).
Data collection	Participants completed surveys for both Study 1 and Study 2 online using Qualtrics, a web-based survey tool. Researchers and participants were not present with each other in-person, as participants took surveys online. Participants were not divided into experimental groups as this was a descriptive study, and researchers were not blind to study hypothesis.
Timing	Data for Study 1 was collected in October 2019. Data for Study 2 was collected in March of 2022.
Data exclusions	For Study 1, participants’ responses were excluded if there was evidence the survey was being filled in by a bot, responses indicated a lack of proficiency in English, or it was evident that a participant took the survey more than once from different accounts. After

exclusions, 848 participants remained in our sample. For Study 2, all participant responses met inclusion criteria and passed attention checks.

Non-participation

Participants self-selected to participate online. We cannot know how many potential participants viewed the online recruitment but chose not to respond.

Randomization

Participants were not allocated into random groups as this was a descriptive study. Open-ended questions for Study 1 were presented in random order to control for framing effects.

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