nature portfolio

Corresponding author(s): Philipp Sprengholz

Last updated by author(s): Sep 10, 2023

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	The web platform Tivian (EFS Fall 2021) was used to collect the data.
Data analysis	We used R (v4.2.2) with packages dplyr (v1.1.0), sjPlot (v2.8.14), rstatix (v0.7.2), reshape2 (v.1.4.4), ggplot2 (v3.4.1), psych (v2.3.3), ggpubr (v0.6.0), compareGroups (v4.6.0), broom (v3.1.6), sandwich (v3.0-2), tidyr (v1.3.0), bayestestR (v0.13.0). The analysis code is permanently available at http://dx.doi.org/10.17605/OSF.IO/BXG7V

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

Original data (in RDS format) and codebooks (in PDF format) are permanently available for all studies at http://dx.doi.org/10.17605/OSF.IO/BXG7V

Research involving human participants, their data, or biological material

Policy information about studies with human participants or human data. See also policy information about sex, gender (identity/presentation), and sexual orientation and race, ethnicity and racism.

Reporting on sex and gender	In all studies, participants' self-reported gender was assessed. As the focus of our work was not on gender differences, analyses did not differentiate between participants' gender. Additional checks confirmed that the investigated biases did not considerably differ by gender. Participants' sex was not assessed.
Reporting on race, ethnicity, or other socially relevant groupings	Participants were not grouped based on race or ethnicity. As the paper investigates pandemic-related memory biases and having or not having received a COVID-19 vaccine in the past is likely to affect these biases, we differentiate between vaccinated and unvaccinated individuals.
Population characteristics	Population characteristics are described in response to "Recruitment" below.
Recruitment	In all studies, samples (quota-representative for age and gender) were recruited online by a panel provider (Bilendi AG), people without internet access and those being from lower SES are likely to be underrepresented. Studies 1, 2 and 3 were longitudinal and dropout can affect results. We assumed that dropping out may especially differ between vaccinated and unvaccinated participants (as unvaccinated people may not want to answer a survey on pandemic-related topics again). To account for this, our analyses controlled for vaccination status.
Ethics oversight	IRBs of the University of Erfurt and the University of Bamberg

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	Study 1: quantitative panel study Study 2: quantitative panel study with experimental manipulation Study 3: quantitative panel study with experimental manipulation Study 4: quantitative cross-sectional study
Research sample	Study 1: 1,644 participants from Germany age at the first panel timepoint (2020/2021): 18 to 74 years (M = 52.68, SD = 12.75); gender: 49% male, 51% female; vaccination status: 74% had received at least one dose of a COVID-19 vaccine (non-representative, oversampling unvaccinated individuals) Study 2: 3,105 participants from Germany and Austria; age at the first panel timepoint (2021): 18 to 97 years (M = 49.90, SD = 16.02); gender: 50% male, 50% female; vaccination status: 71% had received at least one dose of a COVID-19 vaccine (non-representative, oversampling unvaccinated individuals) Study 3: 906 participants from Germany; age at first panel timepoint (2021): 18 to 74 years (M = 50.67, SD = 14.11); gender: 45% male, 55% female; vaccination status: 100% had received at least one dose of a COVID-19 vaccine (non-representative, sampling only vaccinated individuals) Study 4: 5,121 participants from 10 countries (Australia, Germany, Italy, Spain, Japan, South Korea, Mexico, Sweden, United Kingdom, United States); age: 18 to 89 years (M = 46.05, SD = 15.87); gender: 50% male, 50% female; vaccination status: 88% had received at least one dose of a COVID-19 vaccine (samples quota-representative for age and gender)
Sampling strategy	Participants were invited and paid by a large panel provider (Bilendi AG). In Studies 1-3, participants of earlier surveys were re-recruited while samples for Study 4 were stratified by age and gender. Study 1: Initially, we intended to reassess data from 500 vaccinated and 500 unvaccinated individuals at the second panel timepoint. As re-recruiting unvaccinated individuals was more difficult than expected, quotas were changed to oversample vaccinated individuals, resulting in 426 unvaccinated and 1,218 vaccinated participants. Study 2: For the initial panel timepoint (2021), we intended to collect data from about 3,000 vaccinated and 3,000 unvaccinated individuals. However, as recruiting unvaccinated individuals was difficult, data collection stopped after 12 days, resulting in 3267 vaccinated and 2,038 unvaccinated participants. For the followup (2023), we reassessed as many individuals as possible within 10 days, resulting in 892 unvaccinated and 2,213 vaccinated individuals.

	Study 3: We intended to reassess 900 vaccinated participants as this was considered enough to detect small effects of incentives. The sample sizes (450 per group) was preregistered. Study 4: We intended to recruit 500 participants per country as this was considered enough to detect moderate interaction effects as shown in Figure 3C.
Data collection	Data was collected in online surveys.
Timing	Study 1: summer 2020 or winter 2020/2021 (first panel timepoint) plus December 2022 (second panel timepoint) Study 2: December 2021 (first panel timepoint) plus January 2023 (second panel timepoint) Study 3: summer and autumn 2021 (first panel timepoint) plus July 2023 (second panel timepoint) Study 4: April 2023
Data exclusions	No data were excluded
Non-participation	We did not record the number of participants who declined participation (denied consent at the beginning of the survey) or started but did not finish the survey (this resulted in not recording their answers in the dataset). Reasons for not finishing the survey were also not recorded.
Randomization	Participants were allocated to experimental groups randomly.

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
☒	☐ Plants

Methods

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