

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

Data analysis

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](#)

The raw data generated in this study are available for download at <https://zenodo.org/doi/10.5281/zenodo.10568581>. All authors had access to the raw data.

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	Age groups (i.e., 18-29, 30-39, 40-49, 50-59, 60+) and gender (i.e., man, woman, prefer not to say, and other) were collected from respondents in order to ensure representativeness within the sample according to country census statistics, but were not used in analyses.
Reporting on race, ethnicity, or other socially relevant groupings	We did not collect information on race or ethnicity. We collected age, gender, education level and subnational region of the respondent to ensure representativeness on these aspects within each country's sample.
Population characteristics	Demographic information (i.e., age group, gender, education level, income level) were collected for all participants as well as country of response. Strata for these characteristics were established to ensure that, for each country, the sample population characteristics represent the country's general population. These data are reported in their entirety in "Extended Data Table 1: Sample characteristics by country" and are too numerous to include in this reporting document.
Recruitment	Participants were recruited by Consensus Strategies using multiple international online panel providers to avoid coverage bias. Participants were recruited for the panels via a variety of methods, including email, telephone, and direct mail solicitation and equitably compensated in compliance with ethical standards, varying by country and not exceeding USD 3 per completed survey. Participants were recruited through international online panel providers via online email address, telephone and direct mail solicitation. Unique responses were verified using respondent IP addresses or mobile phone numbers to ensure that each participant was real and unique upon registration. Informed consent was obtained from all participants. No personally identifiable information was collected or stored. Self-selection bias may have been present using this methodology, which could impact the results if people who are more or less likely to be vaccine hesitant were motivated to respond, or not (non-response bias) to the survey upon learning this focus.
Ethics oversight	This study was approved and the survey administered by Emerson College, Boston, USA (institutional review board protocol no. 20-023-F-E-6/12-[R1] updated April 2023).

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](https://www.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	Quantitative cross-sectional random sample general population survey of 23,000 respondents in 23 countries
Research sample	23,000 members of the general public, aged 18 or older, representative of the country they are in based on age, sex and subnational regions, according to country census or similar data. We aimed to study the general adult population's levels of confidence in COVID-19 vaccines and other related questions, and therefore this was the most rational study sample.
Sampling strategy	Strata were established by age (using the following age groups: 18–24, 25–54, 55–64 and 65 years and older); gender (male, female, transgender, and “other,"); and level of education (based on each country's educational system), which was calculated from data provided by UNESCO, the Organisation for Economic Co-operation and Development, and country data from Sweden, the United Kingdom, and the United States. Educational level was coded into three groups of low, medium and high. “Low” included people who reported not finishing a secondary education (high school); “medium” included those who had completed secondary, vocational, technical, professional associate or high school degree; the “high” group consisted of those who had completed a tertiary or bachelor's degree and postgraduate work. Each country was divided into regions based on city/town, province or state unit of analysis. The number of participants who could enrol in each of these strata was calculated to reflect the distribution in the general population based on census/survey estimates provided by the World Bank and CIA World Factbook. Data were weighted by strata with each stratum requiring a minimum of 50 participants.
Data collection	Online panels provided responses from 23,000 respondents aged >18 years from 23 countries (n=1,000 per country), comprised of those countries included in the 2020 study (n=19), augmented by four additional countries with high disease incidence (Ghana, Kenya, Peru, and Turkey) and representing regions not represented in the first of the three studies. The 23 countries are: Brazil, Canada, China, Ecuador, France, Germany, Ghana, India, Italy, Kenya, Mexico, Nigeria, Peru, Poland, Russia, Singapore, South Africa, South Korea, Spain, Sweden, Turkey, the United Kingdom (UK) and the United States (US). The researchers nor other third parties were present at the time of data collection, and the participant was free to answer the survey items at their own will and pace. Researchers were unblinded to the experimental conditions and hypotheses.

Timing	Survey data were collected between October 7-18, 2023. The average survey took 12 minutes to complete.
Data exclusions	No data were excluded from analysis.
Non-participation	Initial participation rates were: 98% for Spain, 94% for Kenya, 95% for South Korea, 98% for Poland, 87% for United States, 98% for Mexico, 94% for Sweden, 97% for Singapore, 96% for Turkey, 95% for Ecuador, 96% for China, 94% for South Africa, 95% for Italy, 95% for Ghana, 95% for France, 92% for Peru, 97% for Germany, 95% for Nigeria, 97% for United Kingdom, 92% for India. However, all countries were oversampled and the panels left open until N=1000 fully completed responses were observed.
Randomization	Stratified random sampling was employed. For each demographic stratum, a minimum of 50 responses were established as a quorum. Beyond this minimum quorum, target probabilities were established for each stratum, working backward from 1000 total responses for each country, to equal the country's characteristics, as described in the Sampling strategy above. Respondents were then randomly selected within each stratum. For example, if 51% of a country's demography is female, 510 responses were reserved for females.

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

Methods

n/a	Involved in the study	n/a	Involved in the study
<input checked="" type="checkbox"/>	<input type="checkbox"/> Antibodies	<input checked="" type="checkbox"/>	<input type="checkbox"/> ChIP-seq
<input checked="" type="checkbox"/>	<input type="checkbox"/> Eukaryotic cell lines	<input checked="" type="checkbox"/>	<input type="checkbox"/> Flow cytometry
<input checked="" type="checkbox"/>	<input type="checkbox"/> Palaeontology and archaeology	<input checked="" type="checkbox"/>	<input type="checkbox"/> MRI-based neuroimaging
<input checked="" type="checkbox"/>	<input type="checkbox"/> Animals and other organisms		
<input checked="" type="checkbox"/>	<input type="checkbox"/> Clinical data		
<input checked="" type="checkbox"/>	<input type="checkbox"/> Dual use research of concern		
<input checked="" type="checkbox"/>	<input type="checkbox"/> Plants		

Plants

Seed stocks	Not applicable.
Novel plant genotypes	Not applicable.
Authentication	Not applicable.