

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 (<i>n</i>) 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. <i>F</i> , <i>t</i> , <i>r</i>) with confidence intervals, effect sizes, degrees of freedom and <i>P</i> 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 <i>d</i> , Pearson's <i>r</i>), 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 data used in the analysis was collected through Python 3.10.4 software, using the Scrapy package version 2.11.2
Data analysis	The analysis in the main text and supplementary materials of the research were created using R version 4.4.3. Code is available at the following OSF project link: https://osf.io/q3hj5/?view_only=3fc5b89d05eb4741957af431b107cf2a .

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](#)

We make anonymized petition metadata available at the following OSF project link: https://osf.io/q3hj5/?view_only=3fc5b89d05eb4741957af431b107cf2a. All analyses included in the main text and figures, as well as in the supplementary material analysis and figures, can be reproduced with the code shared here. We do not make full petition text data or user names available, even though they are publicly available, for user agency, privacy, and copyright concerns. However,

the full petition text of all non-deleted petitions can be retrieved from the Web using the petition IDs provided in the petition metadata. Published academic researchers will be able to request the full text dataset from the authors.

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	No reporting on sex or gender was done.
Reporting on race, ethnicity, or other socially relevant groupings	No reporting on socially relevant groupings was done.
Population characteristics	No population characteristics were used.
Recruitment	There were no active participants. We collected petitions posted publicly by users in the time period of January 1, 2022 to December 31, 2024. Our labeling task involved recruiting graduate students at our institution.
Ethics oversight	We consulted with Cornell IRB office; the causal inference project was deemed not human subject research and not requiring IRB approval. Our labeling task was approved by the Cornell IRB office, details in main text Methods and SI Appendix.

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	Data are quantitative. We scraped petitions from Change.org, and then used causal inference methods (e.g., difference-in-differences analysis) to estimate the impact of in-platform AI access on petition lexical features (i.e., word count, lexical diversity, readability) and outcomes (i.e., signatures, comments). We then conducted a labeling task to assign a sample of petitions writing quality and persuasiveness scores.
Research sample	We recruit human participants as labelers, but do not make claims about them. Instead, we seek to make claims about the class of petitions on Change.org, and sample petitions from our collection of scraped petitions.
Sampling strategy	We recruited graduate students as labelers, but do not make claims about them. Instead, we seek to make claims about the class of petitions on Change.org, and sample petitions from our collection of scraped petitions.
Data collection	The data used in the analysis was collected through Python 3.10.4 software, using the Scrapy package version 2.11.2 We scraped petitions posted between January 1, 2022 and December 31, 2024. Collection included all petitions from this time range that were available on the Change.org website at the time of the scrape, January 9, 2025. Participants completed the labeling task asynchronously through a Cornell Qualtrics form. The researcher was not blinded to experimental condition or hypothesis, as there was no human study experiment.
Timing	January 1, 2022 to December 31, 2024.
Data exclusions	We did exclude data from the analysis, which we preregistered. "We will limit our study to English language petitions, as determined through the petition language metadata tag assigned by Change.org and a minimum 25% match to the NLTK English corpus. We will also limit our main analyses to English-speaking countries (i.e. Australia, Canada, the United States, and Great Britain) as these countries have historically had similar roll-out timelines.

We will exclude anomalies, which we define as petitions without any alphanumeric characters and those with a negative number of signatures.”

We increased the minimum NLTK match to 50%, as manual review showed the 25% threshold to capture many non-English petitions.

In addition to this preregistered exclusion criteria, we excluded petitions that had fewer than 2 sentences or 5 total words, as these petitions are too short to allow for coherent application of lexical metrics (i.e. readability, lexical diversity). As we had not preregistered this exclusion criteria we also include in the SI Appendix (Figure 18) our main analysis with these unusually short petitions included, for robustness, and a write up with an explanation of deviations in the SI Appendix section “preregistration”.

Non-participation

N/A,

Randomization

Participants labeled a random sample of petitions, but as we were not conducting an experiment there was no condition for participants to be randomized into.

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

Plants

Seed stocks

N/A

Novel plant genotypes

N/A

Authentication

N/A