Perceptions of Science, Science Communication, and Climate Change Attitudes in 67 Countries

The TISP Dataset

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Abstract

Science is integral to society because it can inform individual, government, corporate, and civil society decision-making on issues such as climate change. Yet, public distrust and populist sentiment may challenge the relationship between science and society. To help researchers analyse the science-society nexus across different cultural contexts, we undertook a cross-sectional survey resulting in a dataset of 71,417 participants in 67 countries. The data were collected between November 2022 and August 2023 as part of the global Many Labs study "Trust in Science and Science-Related Populism" (TISP). The questionnaire contained comprehensive measures for individuals' trust in scientists, science-related populist attitudes, perceptions of the role of science in society, science media use and communication behaviour, attitudes to climate change and support for environmental policies, personality traits, political and religious views and demographic characteristics. Here, we describe the dataset, survey materials and psychometric properties of key variables. We encourage researchers to use this unique dataset for global comparative analyses on public perceptions of science and its role in society and policy-making.

Background & Summary

Scientific evidence and expertise are fundamental to society. They can inform policy-making, individual decision-making, and public discourse about fundamental challenges to humanity, such as climate change and pandemic response[1]. Yet to effectively fulfil this role, scientists need both to signal trustworthiness and to be perceived as trustworthy by the public[2]. Otherwise science will lose legitimacy and thus be limited in its capacity to provide the best available knowledge to society[3,4].

Some scholars and pundits, media reports, and empirical studies have concluded that public trust in science is in decline in many countries. They suggest that the epistemic authority of science has been challenged by: politically motivated resentment[5,6]; concerns about scientists illegitimately intruding in policy-making, public debate, and people's personal lives[7,8]; populist claims about academic elites disregarding common sense in favour of allegedly useless scientific knowledge[9,10]; increased exposure to science-related disinformation and conspiracy theories on social media[11,12]; and scepticism towards scientific evidence and policy advice on major societal issues like climate change[13–15]. This has sparked concerns about a public "breach of faith with science"[16], but robust evidence is largely missing[17].

We investigated these concerns with a global, pre-registered, cross-sectional online survey (N = 71,417 participants in k = 67 countries[i]; see Figure 1) that measured individuals' (1) trust in science and scientists, (2) science-related populist attitudes, (3) perceptions of the role of science in society, policy-making, and daily life, (4) science-related media use and communication behaviour, (5) attitudes to climate change and support for environmental policies, (6) personality traits, (7) political and religious views, and (8) demographic characteristics (see Figure 2 for an overview). In this article, we present the public dataset, soon available at the Open Science Framework (OSF) repository: [**URL REDACTED**].

The data were collected between November 2022 and August 2023 as part of the TISP Many Labs project ("Trust in Science and Science-Related Populism"). TISP is an international, multidisciplinary consortium of 239 researchers from 167 institutions across all continents. Researchers conducted a pre-tested, pre-registered online survey within 87 post-hoc weighted quota samples in 67 countries, using the same questionnaire translated into 37 languages. The countries cover all inhabited continents, include populations beyond Western, Educated, Industrialised, Rich, and Democratic

[i] The term "country" in this article refers to both sovereign states and territories not recognised as such.

(WEIRD) societies and represent 31% of all nations worldwide that jointly make up 78% of the global population.

The TISP dataset is a unique resource for global comparative analyses on individual perceptions of science and its role in society and policy-making, science-related media use and communication behaviour, as well as public attitudes to climate change and support for environmental policies. First, the TISP survey provides the first global data on public opinion and communication about science after the COVID-19 pandemic, which had notable and potentially persistent effects on how individuals view science and engage with science-related information[18–20]. Second, it contains well-tested, comprehensive survey scales for key constructs like trust in scientists, science-related populist attitudes, and emotions associated with climate change, which have previously often only been measured with single items despite their multidimensional structures[21–23] or have not been included in global surveys at all. Third, the TISP dataset includes data from non-WEIRD countries that have been underrepresented in social science research despite distinctive local conditions, contexts and cultures that can affect how people think and communicate about science[24]. Fourth, the survey accounts for regional and cultural specificities as data collection was mostly led or guided by advice by local collaborators in order to avoid "parachute science" practices[25].

The TISP dataset allows systematic assessments of public perceptions of science and their predictors, correlates and outcomes at a global scale. Cologna et al.[26] as well as an online data visualisation dashboard ([**URL REDACTED**]) present such assessments. Yet, they focus on public trust in science and attitudes towards scientists' role in society and policy-making – but do not explore numerous further potentials of the TISP dataset, such as analyses of science communication behaviour and climate change attitudes, qualitative analyses with responses to open-ended questions and analyses of single countries.

By publishing the TISP dataset and supplementing materials, we seek to promote its Findability, increase its Accessibility to researchers within and outside academia, enable its Interoperability across different use cases, and foster its Reusability (FAIR)[27]. This will promote an Open Science culture that equally benefits Western and non-Western scholars[28] and offer a complementary resource for similar datasets presented in this journal[29] or elsewhere[30]. We also welcome educators to integrate it into under- and postgraduate teaching[31] and invite researchers across and beyond the social sciences to use it for original and replication studies. These studies will provide further evidence on the relationship of science and society – both across multiple and within single countries. Such evidence could facilitate recommendations for policy-makers, educators, science communication practitioners, and other stakeholders on how to address societal challenges such as science scepticism and climate change.

Methods

Ethical review

This study received ethical approval from the Area Committee on the Use of Human Subjects at Harvard University in August 2022, which declared it exempt from full IRB review (protocol #IRB22-1046, see [**URL REDACTED**]). A modified IRB application, which included the full list of countries to be surveyed, was also considered exempt from full IRB review in November 2022 (protocol #IRB22-1046). Moreover, all co-authors made sure the survey was reviewed and approved or declared exempt from their home institution's IRB when review was required. Co-authors complied with local ethics, norms, and regulations in the countries where the data were collected.

Pre-registration

We sought to increase the reproducibility and transparency of our study in response to recent calls for a "credibility revolution" within and beyond the social and behavioural sciences[32]. Hence, we followed best Open Science practices and pre-registered at the OSF all methodological procedures underlying the TISP project on 15th November 2022, i.e. prior to collecting data[33]. The pre-registration employed the most comprehensive OSF template developed by Bowman et al.[34] and describes the study design, data collection procedures, variables, and sample size, which was rationalised through simulation-based a-priori power analyses[35]: [**URL REDACTED**].[ii]

We deviated from the pre-registered procedures as follows: (1) We exceeded the overall target sample size (*N* = 62,000) as well as the target sample size for some countries (e.g., Germany) thanks to unexpected additional financial resources. We did not reach the target sample size in six countries (Albania, Bangladesh, Bulgaria, Ethiopia, Romania, Uruguay) because local survey panels were too small to recruit enough respondents in all quota groups. (2) The TISP survey covered five countries not mentioned in the pre-registration (Botswana, Côte d'Ivoire, Egypt, Israel, Uganda) as additional collaborators joined the TISP consortium after submitting the pre-registration. Due to unforeseen reasons, such as lack of funding, we could not collect data as planned in five countries (Honduras, Iran, Nepal, Tanzania, Thailand). However, we exactly reached the pre-registered number of countries (*k* = 67). (3) In order to reach our target sample size and accommodate difficulties with obtaining IRB approval, translating and programming the survey, or reaching quota goals in single counties, we decided to extend the data collection period beyond the time span in the preregistration, i.e. until August 2023. (4) We had to open quotas in twelve countries with very skewed population distributions for age (e.g., few citizens aged 60+ years) to reach target sample sizes (Albania, Bangladesh, Bolivia, Botswana, Côte d'Ivoire, Ethiopia, Ghana, Indonesia, Kenya, Nicaragua, Uganda, Uruguay). (5) When computing the post-stratification weights via iterative post-stratification ("raking"), we collapsed neighbouring age and education strata in single countries. This was because some age and education strata were empty or sparsely populated in several countries, which makes raking impossible or results in extreme weights when applied to data with sparsely populated strata.

Participants

The TISP dataset contains complete records of *N* = 71,417 participants[iii] from 87 samples across *k* = 67 countries. Figure 1 and Table 1 show overviews of valid sample sizes in each country.

The data cover more than a fourth of countries across all inhabited continents, apart from Sub-Saharan Africa and the Middle East and North Africa, where coverage is lower (19% and 14% respectively). They represent 42% of all high-income, 32% of all upper-middle-income, 24% of all lower-middle-income, and 11% of all low-income countries worldwide (according to the World Bank classification).

In most countries, participants were recruited from online panels by the market research company *Bilendi & respondi* and their partners. Working with one market research company allowed us to make sure that the same participants were not sampled twice in countries with multiple samples. Convenience samples were not accepted. In countries not covered by *Bilendi & respondi*, we worked with other data providers (see Table 1).

[ii] Note that the preregistration refers to the main TISP publication[26] while we submitted three further preregistrations for subsequent publications. It therefore also describes specific hypotheses and an analysis plan. The methodological procedures underlying the collection of the TISP dataset can be found in sections Design Plan, Sampling Plan, and Variables.

[iii] Overall, we collected a total of *N* = 71,629 complete responses but had to delete 212 records from duplicate respondents.

Participants received vouchers or credit points for finishing the full survey, which they could then redeem or transfer into money. To complete the survey, they had to (1) be at least 18 years old, (2) agree with the terms and conditions of the consent form, (3) belong to a stratum whose quota target had not yet been met, (4) pass a first attention check of writing "213" into a text box, and (5) pass a second attention check of selecting "strongly disagree" for an extra item in a scale of populist attitudes[36].

Procedure

Data were collected in surveys that used balanced quotas for age (five bins: 20% 18-29 years, 20% 30-39 years, 20% 40-49 years, 20% 50-59 years, 20% 60 years and older) and gender (two bins: 50% male, 50% female[iv]). Data were collected between 30th November 2022 and 27th August 2023 (see Figure 3 for an overview of survey periods across countries). The median completion time was 18 minutes.

The surveys were programmed with the survey software Qualtrics. All data were collected via online surveys, with the exception of the Democratic Republic of the Congo, where trained interviewers conducted face-to-face interviews and recorded responses in Qualtrics, as this was the only data collection solution available from *Bilendi & respondi*.

The project leads prepared several template files, guides, and tutorials, including the TISP guidebook; manuals for data collection and the submission of country datasets to a secure, non-commercial cloud storage service; a survey template file (.qsf format) to be imported into Qualtrics; and materials for IRB applications. Moreover, the project leads assisted some collaborators in programming the survey with Qualtrics by hosting video-call workshops. These measures increased the quality, validity, and comparability across countries.

Measures

The questionnaire contained 111 variables[v]. The complete questionnaires in all 37 languages and the original English questionnaire are soon available at OSF[vi]: [**URL REDACTED**]. The core questionnaire contained the components described in the following (see Figure 2 for all questions and response options). Participants were presented with these components in the order in which they are explained below, but the order of questions and items of multi-item scales was randomised. Collaborators were allowed to add further measures at the end of the questionnaire in countries where they collected data. Response data for these additional measures are not included in the dataset presented in this paper.

Informed consent

Participants were asked to carefully read a consent form (approved under IRB protocol #IRB22-1046 at Harvard University), which included general information about the study and the anonymity of the data.

[iv] We did not use quotas for other genders since available population data indicate substantial county differences in how many people identify with (and are willing to disclose) genders other than male or female. Hence, participants answering "prefer to self-describe" or "prefer not to say" when asked about their gender were not subject to quota requirements (see *Measures* subsection).

[v] The data from single countries missed some variables and items due to negligence, mistakes, or programming difficulties by local collaborators.

[vi] The labels of some variables, items and response options contained errors in the local questionnaires. These were corrected by the project leads when preparing the final dataset.

Demographic data I

Participants who agreed to participate in the study indicated their gender (*female*, *male*, *prefer to self-describe*, *prefer not to say*), age (*years*) and education (*did not attend school*, *primary education*, *secondary education, e.g., high school*, *higher education, e.g., university degree or higher education diploma*).

Attention check I

Participants were asked to write the number "213" into a comment box. Those who failed the attention check were directed to the end of the survey. See the *Technical Validation* section for exclusion totals by country and overall.

Definition of science and scientists

Participants were presented with a definition of science and scientists: *When we say "science", we mean the understanding we have about the world from observation and testing. When we say "scientists", we mean people who study nature, medicine, physics, economics, history, and psychology, among other things.* This definition was based on the Wellcome Global Monitor[30]. We added it because in-depth interviews conducted by the Monitor suggested that including a definition improves the reliability of cross-country comparisons.

Exposure to information about science in news media

Participants were asked how often (*never – once or more per day*) they had come across information about science in four different news media in the past twelve months: news articles in printed newspapers or magazines; news shows or documentaries on TV or radio; news articles on news websites or in news apps; videos or podcasts on news websites or in news apps.

Exposure to information about science in fictional media

Participants were asked how often (*never – once or more per day*) they had come across information about science in fictional films or TV series and in fictional books, comics, etc. in the past twelve months.

Exposure to information about science in social media and instant messaging apps

Participants were asked how often (*never – once or more per day*) they had come across information about science on social media and in instant messaging conversations with friends or family in the past twelve months.

Exposure to information about science in offline settings

Participants were asked how often (*never – once or more per day*) they had come across information about science in museums, zoos or public talks and in conversations with friends or family outside the Internet and messaging apps in the past twelve months.

Communicating with others about science

Participants were asked how often (*never – once or more per day*) they had communicated about science in four different ways in the past twelve months: having conversations with friends, family, or co-workers about scientific issues; chatting in messaging apps about scientific issues; sharing or commenting on social media posts about scientific issues; attending public rallies or protests related to scientific issues.

Open-ended questions on beneficiaries of science and reasons to trust scientists

Participants were randomly assigned to one of two open-ended questions. One question asked participants who they think benefits the most from science and why. The second question asked about their opinion on what makes a scientist trustworthy.

Perceived benefits of science

Participants were asked how much they believe that scientific research benefits people like themselves in their country (*not at all – very strongly*) and which world region benefits the most and the least from the work that scientists do (*Africa*, *Asia*, *Australia and Oceania*, *Europe*, *Latin America*, *North America*).

Desired and perceived goals of science

Participants were asked how much scientists should prioritise tackling four goals (*very low priority – very high priority*) and how strongly they believe that science aims to tackle these goals (*not at all – very strongly*): improve public health; solve energy problems; reduce poverty; develop defence and military technology.

Normative perceptions of science and society

Participants indicated their agreement (*strongly disagree – strongly agree*) with six statements about expectations towards the role of science in politics and society, e.g. "Scientists should be more involved in the policy-making process". Five of these statements were adopted from Cologna et al.[37].

Willingness to be vulnerable to scientists

We used three items to measure participants' willingness to be vulnerable to scientific guidance (*not at all – very strongly*), e.g. when making lifestyle choices related to science. Willingness to be vulnerable to others has been conceptualised as a measure of behavioural trust because it reflects the ceding of authority[22].

Perceived trustworthiness of scientists

Trustworthiness of scientists was assessed with twelve questions that covered four established conceptual dimensions of trust in scientists: competence, integrity, benevolence, and openness[22]. The questions used semantic differentials ranging from *very inexpert* (*very dishonest*, *not concerned about people's well-being*, *not open to feedback*, etc.) to *very expert* (*very honest*, *very concerned about people's well-being*, *very open to feedback*, etc.). These items were adopted from Besley et al.[22]. Information on the psychometric properties of the trustworthiness scale, such as reliability, factor structure, and measurement invariance can be found in the *Technical Validation* section.

Trust in scientific methods

Participants indicated how much they agreed that scientific research methods are the best way to find out if something is true or false (*strongly disagree – strongly agree*)[38].

Confidence in scientists

Participants were asked how much confidence they have that scientists act in the best interests of the public (*no confidence at all – a great deal of confidence*)[39].

Outspokenness about science

We used three items to measure how outspoken participants are about scientific issues, e.g. "I will share my opinions about scientific issues, regardless of what others think of them" (*strongly disagree – strongly agree*). These were based on McKeever et al.[40] but reworded so that they referred to scientific issues.

Science-related populist attitudes

Science-related populist attitudes were assessed with the SciPop Scale[41], which measures to what extent individuals believe that scientists represent a corrupt academic elite that allegedly ignores the common sense of 'ordinary people'[9]. The SciPop Scale asks for the level of agreement with eight statements that capture the four conceptual dimensions of science-related populist attitudes, e.g. "Ordinary people should trust their life experience more than the recommendations of scientists" *(strongly disagree – strongly agree*). Information on the psychometric properties of the scale can be found in the *Technical Validation* section.

Attention check II

We integrated a second attention check into the SciPop Scale. It asked participants to select the response option "strongly disagree". Participants who did not select "strongly disagree" were directed to the end of the survey. See *Technical Validation* section for exclusion totals.

Social dominance orientation

To assess social dominance orientation, we asked participants how much they oppose or favour four statements adopted from Pratto et al.[42], e.g. "In setting priorities, we must consider all groups" (*extremely opposed – extremely favour*).

Trust in climate scientists

Participants were asked how much they trust scientists in their country who work on climate change (*not at all – very strongly*).

Emotions about climate change

Participants reported to what extent climate change makes them feel nine emotions: helpless; anxious; optimistic; angry; guilty; ashamed; depressed; pessimistic; indifferent (*not at all – very strongly*). Most of the nine items were based on established measures for climate change emotions, such as those developed by Hogg et al.[43] and Searle and Gow[44].

Perceptions of government action on climate change

Following Hickman et al.[45], participants indicated their level of agreement with seven statements about government action on climate change, e.g. "My government is doing enough to avoid climate change" (*strongly disagree – strongly agree*).

Support for environmental policies

Participants indicated how much they support five environmental policies: raise carbon taxes on gas and fossil fuels or coal; expand infrastructure for public transportation; increase the use of sustainable energy such as wind and solar energy; protect forested and land areas; increase taxes on carbon intense foods (*not at all – very much*, *not applicable*).

Perceptions of extreme weather events

Participants indicated to what extent they believe that climate change has increased the impact of six weather events over the last decades: floods; heatwaves; heavy storms; wildfires; heavy rain; droughts (*not at all – very much*). They also indicated to what extent they expect that climate change will increase the impact of these events in the future (*not at all – very much*).

Demographic data II and political and religious views

Participants indicated their household's annual net income (in local currency), their political orientation on the liberal-conservative spectrum (*strongly liberal – strongly conservative*, *I don't know*) and on the left-right spectrum (*strongly left-leaning – strongly right-leaning, I don't know*), as well as their religiosity (*not religious at all – very strongly religious*), and whether they live in a rural or urban area (*rural*, *urban*).

Translations

The questionnaire was prepared in 37 languages. The core questionnaire was developed in English and used in countries where English is a widely spoken language. In other countries, the questionnaire was translated into local languages and dialects: Albanian, Egyptian Arabic, Modern Arabic, Standard Arabic, Bengali, Bulgarian, Czech, Danish, Dutch, Filipino, Finnish, French, Georgian, German, Greek, Hebrew, Hungarian, Indonesian, Italian, Japanese, Kazakh, Korean, Mandarin (simplified), Mandarin (traditional), Norwegian, Polish, Portuguese, Romanian, Russian, Serbian, Slovak, Slovenian, Spanish, Swedish, Turkish, and Ukrainian (see Table 1 for an overview).

Translations were done by native speakers who were familiar with the study background and, in most cases, had expertise on survey research and the conceptual underpinning of the measures. Minor linguistic adjustments were made to the survey if deemed necessary. Major changes in the wording of the original survey instrument had to be approved by the project leads. To maintain the accuracy and consistency of translations, the TISP collaborators cross-checked translations among each other, consulted external experts, used validated existing translations when available (e.g., of the SciPop Scale[41]), and worked together to coordinate translations of questionnaires that were used in multiple countries (e.g., the German translation was used in Germany, Switzerland, and Austria). The survey was usually conducted in a widely spoken language, and in some multilingual countries such as Switzerland, participants could choose between different national languages.

Preparing the dataset

Merging and cleaning

The 87 research groups of the TISP consortium submitted all collected data to the project leads, including data from participants who did not finish the survey. The final TISP dataset was prepared in the following steps. First, we merged all 87 datasets into a single dataset and excluded all respondents who did not complete the survey because they cancelled participation during the survey, were filtered out as their gender or age quota were already met, or because they did not pass one of the two attention checks.

Exclusion of duplicate respondents

Second, we excluded 212 participants who completed the survey more than once despite countermeasures (e.g., IP address checks). We identified these participants by their panel IDs, which

they had been assigned by the survey companies when entering the survey, retained only the first complete record for each duplicate respondent, and deleted all subsequent records.

Variable transformations

Third, we transformed participants' annual household income. We converted all values from local currencies to U.S. dollars, using the exchange rates of the day the data were collected. Because almost all countries' data followed a Pareto distribution, we then log-transformed the converted income values, which is beneficial to the robustness of linear regressions that users of the TISP dataset might want to apply[46]. The dataset contains both the original and transformed income data.

Outlier exclusion

Fourth, we removed extreme outlier values for age and household income. Age outliers were defined as values less than 18 and more than 100. Income outliers were defined as values that were either: smaller than zero; equal to zero; or outside 5 × the interquartile range of the log-transformed income distribution within each country after exclusion of values smaller than zero or equal to zero. This led to the removal of the age values of 8 respondents and the removal of the income values of 2,454 participants (1,362 participants indicated income values equal to or less than 0; and 1,092 participants indicated income values outside 5 × the interquartile range).

Post-stratification weights

Fifth, we computed post-stratification weights with the R package survey (v4.2-1)[47]. These ensure that statistical analyses using the TISP dataset will estimate parameters that are representative for target populations in terms of gender, age, and education and have precise standard errors (SEs). We used iterative post-stratification[48] known as "raking" to compute three kinds of weights, i.e. (1) post-stratification weights at country level, (2) post-stratification weights at global level, and (3) rescaled post-stratification weights for multilevel analyses (see *Data Records* section for information on when to use which weight).

We first stratified each country sample by gender (female / male), age groups (18-29 / 30-39 / 40-49 / 50-59 / 60+ years), and education levels (none or primary education[vii] / secondary education / tertiary education). We then used raking to match gender, age, and education distributions of all country samples to each country's population margins[viii,ix,x]. This procedure yielded the (1) post-

[vii] We collapsed the *no education* and *primary education* strata, which is a deviation from the preregistration, because there were several countries without respondents with no education, making post-stratification impossible.

[viii] Population margins for gender and age were retrieved from the World Population Prospects 2022 of the United Nations[49,50]. Population margins for education were retrieved from the 2021 version of the Barro-Lee dataset[51,52], which contains comparative data on educational attainment for all countries and territories included in the TISP project except three. For Georgia, we used 2019 data from the database of the United Nations Economic Commission for Europe[53]. For Ethiopia, we used 2011 data from the UNESCO Institute for Statistics[54]. For Nigeria, we used 2006 data from the UNESCO Institute for Statistics[55].

[ix] We excluded all participants with missing values for gender, age and education before raking, which is only possible if participant information is available for all post-stratification variables. We also excluded participants who did not identify as female or male because the World Population Prospects 2022 does not contain information on how many people within each country identify with genders other than female and male.

[x] Some age and education strata were empty or sparsely populated in several countries, because collaborators had to relax age quotas or oversampled individuals with tertiary education to reach their target sample size. However, raking is not possible with empty strata and results in extreme weights when applied to data with

stratification weights at country level. Next, we computed sample size weights for each country, which accounted for different sample sizes, and multiplied them with the post-stratification weights at country level to obtain the (2) post-stratification weights at global level. For weighted multilevel analyses with R's *lme4* package[56], we prepared (3) rescaled post-stratification weights created with the *rescale_weights()* function of the *datawizard* package (v0.9.0)[57], which implements an algorithm proposed by Asparouhov[58] and Carle[59]. For more details, see the R code shared with the dataset.

Sample characteristics

The cleaned dataset contains 71,417 participants from 67 countries. Table 2 shows the characteristics of the unweighted and the weighted global samples. For sample characteristics across countries, see Tables 3-5.

Data Records

Along with the TISP data, we share supplementary R code for replicating the data preparation procedures and the validation analyses (see *Technical Validation* section), all survey materials (the questionnaires, guides, manuals, and templates), the IRB document, and all figures in high resolution at OSF: [**URL REDACTED**]. Moreover, we developed a data visualisation interface for the TISP project: [**URL REDACTED**].

The datasets

We share three versions of the TISP dataset: (1) the complete dataset (*N* = 165,834) before any cleaning and transformations, (2) the cleaned dataset (*N* = 71,417) without weights, and (3) an analysis-ready dataset (*N* = 69,061) that includes the post-stratification weights.

We share each of the datasets in .rds, .sav, and .csv formats. It is recommended to use the .rds files where response values are labelled. The .csv files are tab-delimited and use UTF-16LE encoding.

Researchers who wish to conduct statistical analyses that estimate parameters that are representative for target populations in terms of gender, age, and education and have correct variances and standard errors should use the analysis-ready dataset. It contains three kinds of post-stratification weights (see *Methods* section).

1. `WEIGHT_CNTRY`: Post-stratification weights at country level, to be used for weighted analyses of single country samples to be used for point estimates (e.g., mean values, regression coefficients, etc.) that are representative in terms of gender, age, and education within country samples. to be used be used for point estimates (e.g., mean values, regression coefficients, etc.) that are representative in terms of gender, age, and education within (most) country samples.
2. `WEIGHT_GLOBL`: Post-stratification weights at global level, to be used for weighted analyses that use the full analysis-ready dataset and account for different country sample sizes.

sparsely populated strata. Therefore, we collapsed empty or sparsely populated age and education strata with adjacent strata in cases where a stratum contained less than 5% of respondents within a country.

3. WEIGHT_MLVLM: Rescaled post-stratification weights for weighted multilevel analyses with R's *lme4* package[56]. Note that *svydesign* objects, which R users might prefer, cannot yet be included in multilevel modelling conducted with R.

Using the post-stratification weights at country and global level will give point estimates (e.g., mean values, regression coefficients, etc.) that are representative in terms of gender, age, and education. To obtain correct variances and standard errors of point estimates, one should use either a *svydesign* object created with the *svydesign()* function of R's survey package[47] or the rescaled post-stratification weights. We precomputed a *svydesign* object of the TISP dataset, which can be found in the repository or reproduced by users with the R code provided.

Survey materials

The materials soon available at the OSF repository also include all survey materials: the TISP core questionnaire in English, all 87 local questionnaires, the Qualtrics file in .qsf format, and instructions for collaborators (data collection manual, data submission guide, and the TISP guidebook).

IRB documents

We also share the documents certifying ethical approval from the Area Committee on the Use of Human Subjects at Harvard University as well as template materials prepared for local IRB applications.

Online dashboard

We developed a web-based data visualisation dashboard using R shiny[60]. Users may explore data on key variables of the TISP project across countries and subsamples. Please note that the dashboard is under ongoing development. It can be accessed at: [**URL REDACTED**].

Technical Validation

We used several processes to assure the quality, integrity, and reliability of the TISP dataset. For example, the project involved an international advisory board with nine experts on public opinion and communication about science, environmental psychology, the history and sociology of science, and survey methods; internal peer review of scientific outputs within the entire TISP consortium; code review by an independent data scientists; provision of templates, guides, tutorials, and 1-on-1 assistance by the project leads; an ethical agreement between the project leads and the consortium that all co-authors had to sign; and IRB review at multiple institutions. To ensure the validity of the survey instruments, we used questions and items that were based on established conceptual models and were validated in several prior studies[22,30,37,39–41]. To increase the invariance of questionnaire performance across countries and languages, we drew on cross-checked translations by local collaborators who were native speakers and familiar with the research topic and study context. We also conducted a pre-test before fielding the main TISP survey, included attention checks to reduce satisficing and straight-lining in survey research, i.e. common problems of survey studies[61], and assessed the psychometric properties of the measures included in the core questionnaire by means of scale reliability analyses, factor analyses, and measurement invariance tests.

Pre-test

A pre-test with *N* = 401 participants was conducted in the United States in October 2022 to validate the measures used in the questionnaire. Average completion time was 14 minutes. The questionnaire was slightly modified to improve the comprehensibility of questions and the survey flow, and two questions were added to the final questionnaire. Data from the pre-test are not included in the datasets presented in this article. However, they are soon available at [**URL REDACTED**].

Attention checks

The questionnaire contained two attention checks (see *Methods* section). 4% of respondents who reached the first attention check did not pass it. 24% of participants who reached the second attention check did not pass it. Table 6 shows how many participants in each country failed the attention checks.

We tested whether attention check fails were significantly more likely for certain groups of participants using logistic multilevel regressions that contained random intercepts across countries and explained attention check fails (0 = pass, 1 = fail) with age, gender, and education, i.e. the three demographic characteristics that were measured before the first attention check and therefore available for all participants. Results showed that failing the first attention check was more likely if participants were younger (b = -0.06, SE = 0.02, z = -3.80, p < .001) and had no tertiary education (b = -0.23, SE = 0.02, z = -14.95, p < .001). Gender was also related to failing, with males being more likely to fail the first attention check than females (b = 0.13, SE = 0.01, z = 16.98, p < .001). Failing the second attention check was clearly more likely among participants who are male (b = 0.13, SE = 0.01, z = 20.16, p < .001), younger (b = -0.43, SE = 0.01, z = -52.29, p < .001), and lower educated, with participants who completed tertiary education being more attentive than participants who completed only primary or secondary education (b = -0.14, SE = 0.01, z = -17.77, p < .001). This corresponds with existing methodological research[36].

Scale reliability analyses

The TISP dataset contains several scales (see *Measures* section), which can be combined into indices. We tested the psychometric properties of these indices.

Perceived trustworthiness of scientists

Trustworthiness perceptions of scientists was operationalised as the unweighted mean of the 12-item scale measuring the four conceptual dimensions of trust in scientists, i.e., competence, integrity, benevolence, and openness (weighted *M* = 3.62, *SD* = 0.70). Higher values indicate higher perceived trustworthiness (range: 1 – 5). Scale reliability in the global sample is very high, with Cronbach's Alpha = 0.93 and Omega = 0.94. Weighted *M* and *SD* values as well as reliability scores across countries can be replicated with the R code.

Science-related populist attitudes

Support for science-related populism[9] was operationalised with the SciPop Score, which is the smallest mean value of the four dimensions of the SciPop Scale, i.e. conceptions of the ordinary people, conceptions of the academic elite, demands for decision-making sovereignty, demands for truth-speaking sovereignty (weighted *M* = 2.33, *SD* = 0.91). Higher values indicate stronger science-related populist attitudes (range: 1 – 5). This operationalisation is known as the "Goertz approach"[62]. It accounts for the conceptual premise that all four components of science-related populism have to be concurrently present within a person to diagnose science-related populist attitudes, whereas the absence of one or more components would disqualify someone to be classified as a proponent of

science-related populism[41]. There are other aggregation procedures, such as using the mean value of all eight scale items or factor scores of confirmatory factor analyses, but the Goertz approach has been recommended by the authors of the scale[41] and has been applied multiple times in survey research on science-related populist attitudes[11,63]. Reliability of the SciPop Scale in the global sample was high (Cronbach's Alpha = 0.79, Omega = 0.83).

Exposure to information about science in news media

Average news media exposure to information about science was operationalised as the unweighted mean of the four items asking participants how often they come across such information in news media (weighted *M* = 3.65, *SD* = 1.45). Higher values indicate higher exposure (range: 1 – 7). The reliability of the resulting four-item scale is high (Cronbach's Alpha = 0.84, Omega = 0.87).

Communicating with others about science

Average engagement in science communication with others was operationalised as the unweighted mean of the four items asking participants how often they communicate with others about science (weighted *M* = 2.75, *SD* = 1.29). Higher values indicate higher engagement (range: 1 – 7). The reliability of the resulting four-item scale is high (Cronbach's Alpha = 0.82, Omega = 0.86).

Willingness to be vulnerable to scientists

The three-item items measuring participants' willingness to be vulnerable to scientific guidance was aggregated to a mean score, with higher values indicating higher willingness to be vulnerable (weighted *M* = 3.85, *SD* = 0.80, range: 1 – 5). Scale reliability is high (Cronbach's Alpha = 0.75, Omega = 0.76).

Outspokenness about science

The three-item scale measuring outspokenness about science was aggregated to a mean score, with higher values indicating higher outspokenness (weighted *M* = 3.86, *SD* = 0.98, range: 1 – 5). Scale reliability is very high (Cronbach's Alpha = 0.89, Omega = 0.89).

Social dominance orientation

The four-item scale measuring social dominance orientation was aggregated to a mean score, with higher values indicating stronger dominance orientations (weighted *M* = 3.62, *SD* = 1.76, range: 1 – 10). Scale reliability is acceptable (Cronbach's Alpha = 0.57, Omega = 0.73).

Emotions about climate change

The nine-item scale measuring climate change emotions was aggregated to a mean score, with higher values indicating more negative emotions (weighted *M* = 2.95, *SD* = 0.81, range: 1 – 5). Scale reliability is high (Cronbach's Alpha = 0.80, Omega = 0.88).

Support for environmental policies

Average support for environmental policies was operationalised as the unweighted mean of the five items asking participants how much they endorse five such policies (weighted *M* = 2.37, *SD* = 0.43). Higher values indicate stronger support (range: 1 – 3). The reliability of the resulting four-item scale is acceptable (Cronbach's Alpha = 0.62, Omega = 0.73).

Measurement invariance tests

We validated the factor structure of the two key constructs of the TISP project, i.e. trust in scientists and science-related populist attitudes, and tested their measurement invariance.

Perceived trustworthiness of scientists

Polychoric parallel analysis with the 12 items measuring participants' perceived trustworthiness of scientists did not find the four conceptual dimensions but suggested six factors. However, oblique polychoric exploratory factor analysis[xi] (EFA) showed that the twelve items formed plausible factors that largely corresponded with the four conceptual dimensions competence, integrity, benevolence, and openness, although there were some cross-loadings due to which the benevolence and openness dimensions were less distinct (see Table 7). Moreover, a multilevel EFA model implemented via multi-group exploratory structural equation modelling (ESEM)[65] had very good fit (χ^2 = 5,372, df = 2,979, p < .001; CFI = 0.990, TLI = 0.985, RMSEA = 0.036, SRMR = 0.032). Confirmatory factor analysis (CFA) that tested a model with four latent factors, each predicting its three corresponding items, also indicated good model fit (χ^2 = 5,838, df = 48, p < .001; CFI = 0.971, TLI = 0.960, RMSEA = 0.053, SRMR = 0.025). Multi-group CFAs yielded similar results (χ^2 = 12,100, df = 3,216, p < .001; CFI = 0.962, TLI = 0.948, RMSEA = 0.066, SRMR = 0.031). However, this suggests that we can assume configural invariance across countries, but not metric or scalar invariance (p < .001), which is typical for multi-country models.

Science-related populist attitudes

Polychoric parallel analysis confirmed the four-dimensional conceptualisation of SciPop Scale, as it suggested four factors. Oblique polychoric EFA[xii] showed that the eight items form four plausible factors that correspond with the four conceptual dimensions of science-related populist attitudes, i.e. conceptions of the ordinary people, conceptions of the academic elite, demands for decision-making sovereignty, demands for truth-speaking sovereignty (see Table 8). Moreover, an ESEM-based multilevel EFA had very good fit (χ^2 = 1,827, df = 1,190, p < .001; CFI = 0.992, TLI = 0.987, RMSEA = 0.029, SRMR = 0.026). Confirmatory factor analysis (CFA) that tested a model with four second-order factors, each predicting its two corresponding items, and one first-order factor also indicated good model fit (χ^2 = 1,445, df = 16, p < .001; CFI = 0.976, TLI = 0.959, RMSEA = 0.046, SRMR = 0.033). Multi-group CFAs yielded similar results (χ^2 = 3,482, df = 1,072, p < .001; CFI = 0.968, TLI = 0.944, RMSEA = 0.060, SRMR = 0.037). However, they suggested that we can only assume configural invariance across countries, but not metric or scalar invariance (p < .001).

[xi] Mardia's test showed that multivariate normality of the 12-item trustworthiness scale could not be assumed (Mardia skewness = 16,659, Mardia kurtosis = 254.43, p < .001). Therefore, we used principial axis factoring (PA) instead of maximum likelihood factoring (ML), as PA factoring outperforms ML factoring when the normality assumption is violated[64].

[xii] Mardia's test showed that multivariate normality of the SciPop Scale could not be assumed (Mardia skewness = 4,150, Mardia kurtosis = 122.15, p < .001). Therefore, we used principial axis factoring (PA) instead of maximum likelihood factoring (ML).

Code Availability

All data as well as the R code, and precomputed models underlying the analyses described in this article, and Figure 1-3 in high resolution are soon available at: [**URL REDACTED**].

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Competing Interests

Authors declare that they have no competing interests.

Funding sources

Anonymized for this preprint. Available upon request.

Ethical Compliance

Informed consent was obtained from all participants before taking the survey. The study received ethical approval from the Area Committee on the Use of Human Subjects at Harvard University in August 2022, which declared it exempt from full IRB review (protocol #IRB22-1046). A modified IRB application, which included the full list of countries to be surveyed, was also considered exempt from full IRB review in November 2022 (protocol #IRB22-1046). Moreover, all authors made sure the survey was reviewed and approved or declared exempt from their home institution's IRB when review was required. We complied with local ethics, norms, and regulations in the countries where the data were collected.

Figures

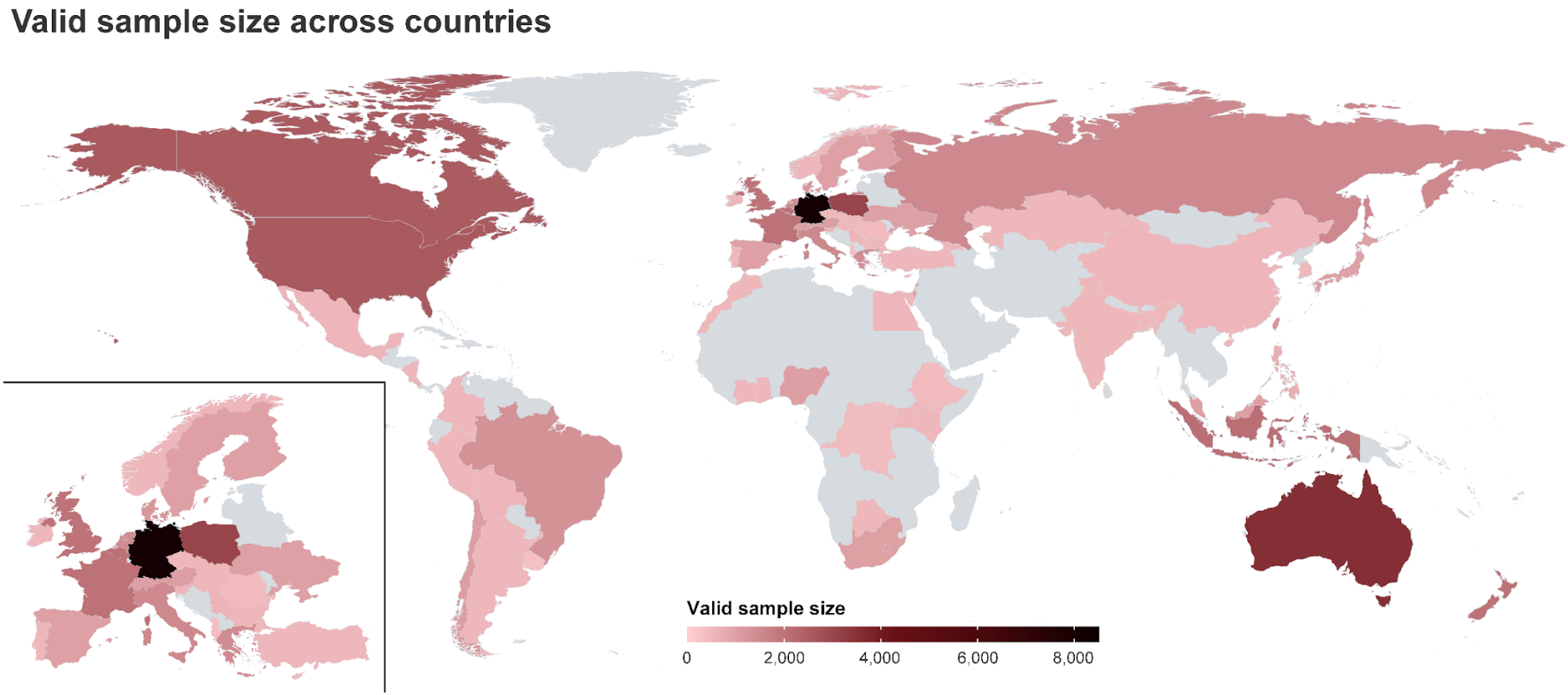

Figure 1. Valid sample size across countries.

Superordinate construct	Construct	Questions and items
Trust in science and scientists	Perceived trustworthiness of scientists	**How expert or inexpert are most scientists?** Very inexpert – Very expert **How intelligent or unintelligent are most scientists?** Very unintelligent – Very intelligent **How qualified or unqualified are most scientists when it comes to conducting high-quality research?** Very unqualified – Very qualified **How honest or dishonest are most scientists?** Very dishonest – Very honest **How ethical or unethical are most scientists?** Very unethical – Very ethical **How sincere or insincere are most scientists?** Very insincere – Very sincere **How concerned or not concerned are most scientists about people's wellbeing?** Not concerned – Very concerned **How eager or uneager are most scientists to improve others' lives?** Very uneager – Very eager **How open are most scientists to feedback?** Not open – Very open **How considerate or inconsiderate are most scientists of others' interests?** Very inconsiderate – Very considerate **How willing or unwilling are most scientists to be transparent?** Very unwilling – Very willing **How much or little attention do scientists pay to others' views?** Very little attention – Very much attention
	Trust in scientific methods	**To what extent do you agree or disagree with the following statement?** Strongly disagree – Strongly agree **"Scientific research methods are the best way to find out if something is true or false."**
	Confidence in scientists	**How much confidence do you have in scientists to act in the best interests of the public?** No confidence at all – A great deal of confidence
	Willingness to be vulnerable to scientists	**How much or little should people rely on scientists' guidance when making lifestyle choices related to science?** Not at all – Very strongly **How much or little should governments rely on scientists' guidance when making decisions related to science?** Not at all – Very strongly **How much or little control do you want scientists to have on government decisions related to science?** No control at all – Very strong control
	Trust in climate scientists	**To what extent do you trust scientists in your country who work on climate change?** Not at all – Very strongly
	Reasons to trust scientists	**In your opinion, what makes a scientist trustworthy?** *Open-ended question*
Science-related populist attitudes	Science-related populist attitudes	**The following statements are about the relationship between science and society.** **How much do you agree or disagree with them?** Strongly disagree – Strongly agree Ordinary people have in common that they trust their common sense in everyday life Ordinary people are of good and honest character Scientists are only interested in their own advantage Scientists are in cahoots with politicians and businesses. Ordinary people should have influence on the work of scientists. Ordinary people should be involved in decisions about the topics scientists research Ordinary people should trust their life experience more than the recommendations of scientists Our society should rely more on common sense than on scientific studies
	Perceived benefits of science	**In your opinion, how much does scientific research benefit people like yourself in your country?**

Perceptions of the role of science in society, policy-making, and daily life		Not at all – Very strongly **Which region do you think benefits the most from the work that scientists do?** Africa, Asia, Australia/Oceania, Europe, Latin America, North America **Which region do you think benefits the least from the work that scientists do?** Africa, Asia, Australia/Oceania, Europe, Latin America, North America
	Desired goals of science	**What goals should scientists prioritize?** Very low priority – Very high priority Improving public health Solving energy problems (renewable sources, energy security) Reducing poverty Developing defense and military technology
	Perceived goals of science	**How strongly do you believe that science aims to tackle these goals?** Not at all – Very strongly Improving public health Solving energy problems (renewable sources, energy security) Reducing poverty Developing defense and military technology
	Normative perceptions of science and society	**To what extent do you agree or disagree with the following statements?** Strongly disagree – Strongly agree Scientists should work closely with politicians to integrate scientific results into policy-making Scientists should actively advocate for specific policies Scientists should communicate their findings to politicians Scientists should be more involved in the policy-making process Scientists should communicate about science with the general public Scientists should remain independent from the policy-making process
	Perceived beneficiaries of science	**Who do you think benefits the most from science and why?** *Open-ended question*
Science-related media use and communication behaviour	Exposure to information about science in news media	**Over the past 12 months, how often have you come across information about science in the following places?** Never – Once or more per day In news articles in printed newspapers or magazines In news shows or documentaries on TV or radio In news articles on news websites or in news apps In videos or podcasts on news websites or in news apps
	Exposure to information about science in fictional media	**Over the past 12 months, how often have you come across information about science in the following places?** Never – Once or more per day In fictional films or series (e.g., on TV, in the cinema, or on other devices) In fictional books, comics, etc.
	Exposure to information about science in social media and instant messaging apps	**Over the past 12 months, how often have you come across information about science in the following places?** Never – Once or more per day On social media (e.g., YouTube vlogs, Facebook, TikTok clips, Instagram) In instant messaging conversations with friends or family (e.g., WhatsApp, Line, Telegram)
	Exposure to information about science in offline settings	**Over the past 12 months, how often have you come across information about science in the following places?** Never – Once or more per day In museums, zoos, or public talks In conversations with friends or family

	Communicating with others about science	**Over the past 12 months, how often have you done the following?** Never – Once or more per day Had conversations with friends, family, or co-workers about scientific issues Chatted in messaging apps about scientific issues Shared or commented on social media posts about scientific issues Attended public rallies or protests related to scientific issues
	Outspokenness about science	**Please indicate how strongly you agree or disagree with the following statements.** Strongly disagree – Strongly agree I will share my opinions about scientific issues, regardless of what others think of them I will share my opinions about scientific issues, even if this may isolate me from others I will share my opinions about scientific issues, even if I believe others are against them
Attitudes to climate change and support for environmental policies	Emotions about climate change	**To what extent does climate change make you feel any of the following?** Not at all – Very strongly Helpless, Anxious, Optimistic, Angry, Guilty, Ashamed, Depressed, Pessimistic, Indifferent
	Perceptions of government action on climate change	**To what extent do you agree or disagree with the following statements?** Strongly disagree – Strongly agree **In relation to climate change I believe that my government is…** Taking my concerns seriously Doing enough to avoid climate change Dismissing people's distress Acting in line with climate science Protecting future generations Trustworthy Lying about the effectiveness of their actions taking
	Support for environmental policies	**Please indicate your level of support for the following policies.** Not at all – Moderately – Very much, Not applicable Raising carbon taxes on gas and fossil fuels or coal Expanding infrastructure for public transportation Increasing the use of sustainable energy such as wind and solar energy Protecting forested and land areas Increasing taxes on carbon intense foods (e.g., beef and dairy products)
	Perceptions of past extreme weather events	**To what extent do you think that climate change has increased the impact of the following weather events over the last decades?** Not at all – Very much Floods, Heatwaves, Heavy storms, Wildfires, Heavy rain, Droughts
	Perceptions of future extreme weather events	**To what extent do you think that climate change will increase the impact of the following weather events in the future?** Not at all – very much Floods, Heatwaves, Heavy storms, Wildfires, Heavy rain, Droughts
Personality traits	Social dominance orientation	**There are many kinds of groups in the world: men and women, ethnic and religious groups, nationalities, political factions. How much do you favor or oppose the ideas about groups in general?** Extremely oppose – Extremely favor In setting priorities, we must consider all groups We should not push for group equality Group equality should be our ideal Superior groups should dominate inferior groups

Political and religious views	Political orientation	**Please indicate your political orientation.** Strongly liberal – Strongly conservative Strongly left-leaning – Strongly right-leaning
	Religiosity	**Please indicate to what extent you consider yourself religious.** Not religious at all – very strongly religious
Demographic characteristics	Gender	**What gender do you identify with?** Woman, Man, Prefer to self-describe
	Age	**How old are you?**
	Education	**What is your highest completed level of education?** Primary education, Secondary education, Higher education, Did not attend school
	Annual household income	**Please indicate your household's yearly net income (in local currency).**
	Place of residence	**Which of the following best describes the area you live in?** Rural, Urban

Figure 2. Overview of constructs included in the TISP core questionnaire.

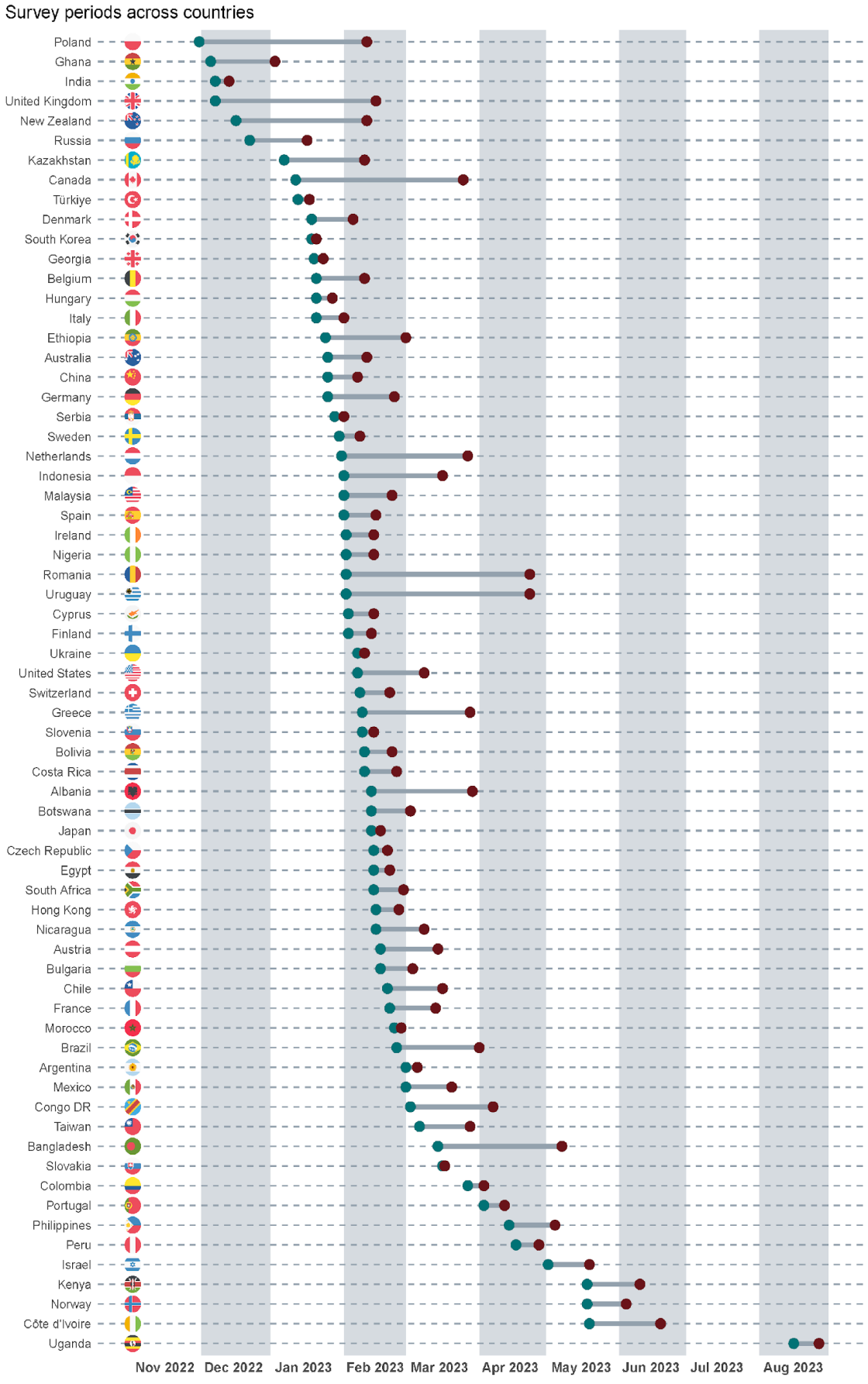

Figure 3. Data collection periods across countries.

Tables

Table 1. Overview of countries, questionnaire languages, polling companies and valid sample sizes across countries.

Country	Language	Polling company	Valid sample size
Albania	Albanian	Bilendi & respondi	377
Argentina	Spanish	Bilendi & respondi	509
Australia	English	Bilendi & respondi	3,560
Austria	German	Bilendi & respondi	1,076
Bangladesh	Bengali	Bilendi & respondi	496
Belgium	French, Flemish	Bilendi & respondi	2,052
Bolivia	Spanish	Bilendi & respondi	548
Botswana	English	Bilendi & respondi	508
Brazil	Portuguese	Offerwise	1,336
Bulgaria	Bulgarian	Bilendi & respondi	497
Canada	English	Bilendi & respondi	2,535
Chile	Spanish	Bilendi & respondi	1,058
China	Mandarin (simplified)	Bilendi & respondi	526
Colombia	Spanish	Bilendi & respondi	514
Congo DR	French	Bilendi & respondi	408
Costa Rica	Spanish	Bilendi & respondi	573
Côte d'Ivoire	French, English	MSi	514
Cyprus	Greek	Bilendi & respondi	509
Czech Republic	Czech	Bilendi & respondi	502
Denmark	Danish	Bilendi & respondi	1,227
Egypt	Egyptian Arabic	MSi	512
Ethiopia	English	MSi	455
Finland	Finnish	Bilendi & respondi	1,009
France	French	Bilendi & respondi	2,029
Georgia	Georgian	Bilendi & respondi	528
Germany	German	Bilendi & respondi	8,134
Ghana	English	MSi	509
Greece	Greek	Bilendi & respondi	1,449
Hong Kong	Mandarin (traditional)	Bilendi & respondi	599
Hungary	Hungarian	Bilendi & respondi	508
India	English	Bilendi & respondi	502
Indonesia	Indonesian	Bilendi & respondi	2,104
Ireland	English	Bilendi & respondi	506
Israel	Hebrew	Bilendi & respondi	1,049
Italy	Italian	Bilendi & respondi	1,520
Japan	Japanese	Bilendi & respondi	1,004
Kazakhstan	Kazakh	MSi	520
Kenya	English	MSi	513
Malaysia	Malaysian	Bilendi & respondi	1,046
Mexico	Spanish	Bilendi & respondi	532
Morocco	Standard Arabic, Moroccan Arabic	MSi	503
Netherlands	Dutch	Bilendi & respondi	1,427
New Zealand	English	Bilendi & respondi	2,028

Nicaragua	Spanish	Bilendi & respondi	499
Nigeria	English	Bilendi & respondi	1,040
Norway	Norwegian	Bilendi & respondi	513
Peru	Spanish	Bilendi & respondi	513
Philippines	English, Filipino	Bilendi & respondi	661
Poland	Polish	Bilendi & respondi	3,037
Portugal	Portuguese	Bilendi & respondi	502
Romania	Romanian	Kieskompas	444
Russia	Russian	Toloka.Yandex	1,518
Serbia	Serbian	Bilendi & respondi	575
Slovakia	Slovakian	2Muse	543
Slovenia	Slovenian	Bilendi & respondi	528
South Africa	English	Bilendi & respondi	1,027
South Korea	Korean	Bilendi & respondi	500
Spain	Spanish	Bilendi & respondi	1,015
Sweden	Swedish	Bilendi & respondi	1,013
Switzerland	German, Italian, French	Bilendi & respondi	1,018
Taiwan	Mandarin (traditional)	Bilendi & respondi	1,206
Türkiye	Turkish	Bilendi & respondi	508
Uganda	English	MSi	513
Ukraine	Ukrainian	Bilendi & respondi	1,020
United Kingdom	English	Bilendi & respondi; Prolific	2,008
United States	English	Bilendi & respondi	2,580
Uruguay	Spanish	Kieskompas	325

Table 2. Characteristics of the final sample (weighted and unweighted data)

		Unweighted	Weighted
N		71,417	71,417
Countries		67	67
Gender	% male	50.21	49.29
	% female	49.79	50.71
Age	*M*	43.73	45.77
	SD	15.09	16.4
Age groups	% 18-29 years	21.70	20.93
	% 30-39 years	21.20	18.52
	% 40-49 years	20.39	17.23
	% 50-59 years	19.00	16.65
	% 60+ years	17.70	26.67
Education	% none	0.12	0.25
	% primary	2.42	4.11
	% secondary	38.37	67.42
	% tertiary	59.09	28.21
Annual household income in USD	*Me*	19,620	17,037
	SD	9,397,333	6,037,125
Political orientation (conservative)	*M*	3.00	3.02
	SD	1.16	1.17
Political orientation (right)	*M*	3.18	3.18
	SD	1.07	1.08
Religiosity	*M*	2.76	2.76
	SD	1.40	1.41
Place of residence	% urban	73.25	70.89
	% rural	26.75	29.11

Table 3. Sample characteristics across countries, weighted data (1)

Country	*n*	Gender		Age		Age group				
		% female	% male	*M*	*SD*	% 18-29 years	% 30-39 years	% 40-49 years	% 50-59 years	% 60+ years
Albania	377	50.03	49.97	40.22	12.77	22.97	16.99	39.21	16.12	4.71
Argentina	509	50.46	49.54	43.05	16.11	25.76	20.10	18.08	13.73	22.33
Australia	3,560	50.36	49.64	47.12	18.07	20.78	18.95	16.37	15.53	28.37
Austria	1,076	50.78	49.22	48.04	15.99	17.01	16.62	15.90	18.87	31.59
Bangladesh	496	50.40	49.60	37.89	14.90	32.99	23.05	17.97	17.81	8.17
Belgium	2,052	50.61	49.39	48.70	17.17	17.95	16.39	16.24	17.13	32.28
Bolivia	548	49.83	50.17	36.72	12.78	34.77	23.70	17.32	22.07	2.14
Botswana	508	50.62	49.38	36.76	12.73	34.03	26.80	18.72	16.91	3.53
Brazil	1,336	50.87	49.13	42.38	15.17	25.19	21.64	18.88	15.35	18.95
Bulgaria	497	51.49	48.51	49.00	15.43	13.56	16.38	18.15	16.73	35.19
Canada	2,535	50.31	49.69	47.69	16.76	19.17	17.23	15.80	16.56	31.24
Chile	1,058	50.37	49.63	43.82	16.12	23.40	20.36	17.54	15.80	22.91
China	526	48.91	51.09	45.35	15.09	18.25	20.39	18.14	20.32	22.91
Colombia	514	50.64	49.36	41.95	15.40	28.06	21.62	17.41	15.09	17.81
Congo DR	408	50.44	49.56	35.72	13.40	42.25	22.96	14.75	10.22	9.81
Costa Rica	573	49.95	50.05	42.48	15.38	24.90	21.63	17.57	15.44	20.45
Côte d'Ivoire	514	49.47	50.53	34.97	12.58	42.00	23.45	17.47	13.75	3.34
Cyprus	509	49.92	50.08	44.55	15.24	18.57	22.80	18.50	15.45	24.68
Czech Rep.	502	50.75	49.25	48.65	16.05	14.76	16.52	20.37	15.90	32.45
Denmark	1,227	50.26	49.74	48.69	17.44	19.49	14.98	15.77	17.12	32.64
Egypt	512	49.39	50.61	38.40	14.64	31.82	24.57	18.30	12.95	12.36
Ethiopia	455	49.75	50.25	31.38	10.24	42.51	23.31	25.36	8.82	0.00
Finland	1,009	50.60	49.40	49.47	17.26	17.24	16.02	14.90	15.76	36.08
France	2,029	51.66	48.34	48.66	15.66	17.09	15.39	16.25	16.51	34.77
Georgia	,528	52.98	47.02	45.86	15.40	19.12	19.51	17.02	16.74	27.61
Germany	8,134	50.66	49.34	49.51	16.30	15.90	15.63	14.41	18.97	35.08
Ghana	509	50.12	49.88	34.54	11.81	36.27	25.17	33.68	0.00	4.87
Greece	1,449	51.01	48.99	48.50	15.01	15.18	14.06	18.07	17.65	35.04
Hong Kong	599	53.88	46.12	48.44	15.23	14.17	17.16	17.70	18.62	32.35
Hungary	508	52.07	47.93	47.86	15.55	16.61	15.66	19.77	15.73	32.23
India	502	48.27	51.73	40.54	17.18	30.82	22.56	17.97	13.60	15.05
Indonesia	2,104	49.64	50.36	39.81	13.51	27.21	21.75	19.99	23.98	7.08
Ireland	506	50.45	49.55	45.64	15.79	19.33	17.91	20.14	16.23	26.39
Israel	1,049	50.14	49.86	43.83	16.68	25.37	19.51	17.83	13.48	23.82
Italy	1,520	51.26	48.74	50.42	15.79	14.29	13.43	17.19	19.02	36.07
Japan	1,004	51.39	48.61	51.43	16.56	13.54	12.61	16.58	15.63	41.65
Kazakhstan	520	51.97	48.03	42.18	14.45	23.17	23.67	18.41	15.70	19.06
Kenya	513	50.43	49.57	35.59	13.55	40.17	25.05	16.46	12.54	5.78
Malaysia	1,046	48.87	51.13	40.29	15.19	28.55	24.34	17.91	13.82	15.38
Mexico	532	51.18	48.82	41.01	15.30	28.44	21.24	18.69	14.59	17.04
Morocco	503	49.61	50.39	40.47	15.35	27.47	22.17	18.75	14.74	16.87
Netherlands	1,427	50.31	49.69	47.45	16.29	18.88	15.43	15.07	17.93	32.69
New Zealand	2,028	50.44	49.56	46.98	17.90	21.37	18.23	15.98	16.41	28.02
Nicaragua	,499	50.71	49.29	36.94	13.16	34.85	23.78	17.63	20.77	2.97
Nigeria	1,040	49.42	50.58	35.04	14.09	40.45	23.19	16.60	14.46	5.30
Norway	513	49.56	50.44	48.38	17.44	19.25	17.31	16.69	16.75	30.00
Peru	513	50.49	49.51	40.49	15.35	28.85	22.00	18.12	13.62	17.42
Philippines	661	49.23	50.77	39.42	14.60	33.30	22.30	17.82	13.36	13.23
Poland	3,037	51.64	48.36	47.27	16.10	15.99	19.11	18.69	14.74	31.47

Portugal	502	52.82	47.18	48.63	15.31	15.49	14.03	18.12	17.33	35.04
Romania	444	51.65	48.35	48.18	16.31	15.77	16.87	19.21	16.98	31.17
Russia	1,518	53.56	46.44	46.32	14.96	15.88	21.36	18.24	15.98	28.53
Serbia	575	52.06	47.94	47.45	15.47	16.10	16.56	18.02	16.48	32.85
Slovakia	543	51.18	48.82	47.69	15.96	16.43	18.82	19.76	15.85	29.15
Slovenia	528	49.74	50.26	48.16	15.67	14.89	16.35	18.22	17.33	33.21
South Africa	1,027	51.35	48.65	39.40	14.80	29.87	26.94	16.06	14.04	13.09
South Korea	500	50.06	49.94	47.41	15.64	17.85	15.84	18.42	19.35	28.55
Spain	1,015	50.99	49.01	48.75	15.52	15.07	14.98	19.83	18.28	31.84
Sweden	1,013	49.63	50.37	49.15	17.55	18.51	17.29	15.81	16.00	32.39
Switzerland	1,018	50.37	49.63	47.62	15.60	16.76	17.44	16.85	18.24	30.71
Taiwan	1,206	50.46	49.54	46.15	15.47	18.09	17.92	19.16	17.78	27.05
Türkiye	508	49.88	50.12	41.19	14.78	26.37	21.78	19.26	15.49	17.08
Uganda	513	50.49	49.51	33.46	13.11	48.78	23.41	8.63	19.10	0.08
Ukraine	1,020	53.72	46.28	46.36	14.86	15.35	20.18	18.08	16.50	29.90
UK	2,008	50.60	49.40	48.00	16.82	18.71	16.88	15.75	17.21	31.45
US	2,580	50.46	49.54	47.33	17.48	20.48	17.51	15.98	16.47	29.56
Uruguay	325	51.56	48.44	47.20	14.37	9.08	31.74	17.05	15.13	26.99

Table 4. Sample characteristics across countries, weighted data (2)

Country	Education				Annual household income in USD		Political orientation (conservative)	
	% none	% primary	% secondary	% tertiary	*Me*	*SD*	*M*	*SD*
Albania	6.23	6.61	71.17	15.98	4,620	223,241	2.65	1.56
Argentina	0.00	3.40	75.27	21.33	1,013	139,767	2.69	1.06
Australia	0.17	3.05	58.91	37.87	49,693	275,791	3.31	1.18
Austria	0.00	3.72	68.20	28.07	26,779	57,149	2.77	1.01
Bangladesh	0.00	5.62	85.74	8.64	1,139	4,069	2.96	1.64
Belgium	0.00	3.69	63.62	32.68	46,915	95,721	2.94	1.01
Bolivia	0.00	2.63	73.85	23.52	616	43,269	3.06	1.48
Botswana	0.00	0.00	89.30	10.70	2,350	7,248	3.24	1.22
Brazil	0.93	37.64	47.74	13.69	341	84,877	3.34	1.46
Bulgaria	0.82	0.95	74.13	24.10	8,158	81,574	3.15	0.91
Canada	0.47	2.74	48.73	48.06	43,460	57,160	2.96	1.19
Chile	0.49	2.80	75.60	21.11	1,565	1,921,289	2.87	1.31
China	1.75	14.60	76.38	7.27	26,535	37,694	2.75	1.26
Colombia	0.00	2.79	72.89	24.32	860	7,349	2.81	1.21
Congo DR	0.00	0.00	92.12	7.88	2,000	57,844	3.00	1.57
Costa Rica	0.00	8.30	70.60	21.11	2,266	91,009	3.33	1.53
Côte d'Ivoire	1.17	1.71	92.06	5.06	1,077	20,185	3.05	1.38
Cyprus	0.33	4.32	58.95	36.40	16,079	147,730	2.73	1.00
Czech Rep.	0.19	3.93	76.09	19.80	19,656	23,623	3.22	0.92
Denmark	0.01	1.61	60.04	38.34	43,875	82,863	2.82	0.88
Egypt	1.95	0.49	82.91	14.65	1,963	5,641	3.80	1.51
Ethiopia	0.82	2.57	90.71	5.90	186	152,679	2.77	1.39
Finland	0.00	20.07	44.43	35.50	40,630	51,979	2.96	1.10
France	0.21	1.25	66.79	31.75	25,488	32,230	2.98	1.06
Georgia	0.53	4.91	60.59	33.97	16,986	104,879	3.31	1.03
Germany	0.04	0.48	79.00	20.48	27,122	2,070,575	2.94	0.98
Ghana	0.00	10.17	84.83	5.00	1,569	24,602	3.07	1.40
Greece	0.22	5.22	69.17	25.39	15,519	80,425	2.74	0.98
Hong Kong	0.00	5.18	58.92	35.90	51,004	56,653	2.80	0.95
Hungary	0.00	3.46	75.65	20.89	8,412	20,699	3.04	1.11
India	0.00	7.77	79.55	12.68	4,858	11,994	3.48	1.42
Indonesia	0.45	1.05	89.08	9.42	3,234	18,403	3.44	1.04
Ireland	0.00	4.02	56.98	39.00	43,043	311,216	2.88	0.97
Israel	0.00	0.85	61.04	38.12	5,473	31,763	2.48	1.12
Italy	0.00	0.73	83.77	15.50	27,247	41,617	2.71	1.02
Japan	0.61	0.20	53.13	46.06	29,944	155,393	3.22	0.99
Kazakhstan	0.29	0.00	78.16	21.55	2,177	267,998	3.43	1.17
Kenya	0.71	2.37	88.95	7.97	1,086	7,203	3.07	1.41
Malaysia	0.34	1.75	75.06	22.84	4,541	46,693,259	3.01	0.80
Mexico	0.94	1.67	80.72	16.66	3,335	145,874	2.77	1.29
Morocco	0.67	5.69	79.47	14.16	3,361	204,008	3.87	1.26
Netherlands	0.10	3.34	66.07	30.49	44,694	163,168	2.88	0.95
New Zealand	0.33	6.38	67.09	26.20	44,915	958,007	3.34	1.13
Nicaragua	0.53	5.83	82.00	11.64	673	2,235	2.95	1.42
Nigeria	0.00	4.75	77.90	17.35	2,173	85,994	3.61	1.24
Norway	0.00	1.60	61.70	36.70	45,962	77,386	2.92	1.07
Peru	0.00	0.00	79.72	20.28	1,857	57,290	3.55	1.02
Philippines	0.84	0.76	70.14	28.26	2,674	21,033	3.41	1.15

Poland	0.03	4.76	70.81	24.40	13,477	33,383	2.90	1.23
Portugal	0.00	5.83	73.47	20.70	21,714	68,276	2.74	0.77
Romania	0.00	1.30	83.70	15.00	2,224	25,605	2.52	1.03
Russia	0.00	0.42	34.87	64.71	5,786	578,348	3.24	1.03
Serbia	0.00	2.12	79.19	18.69	1,387	161,495	2.71	1.19
Slovakia	0.00	5.74	75.36	18.90	13,787	14,832	3.28	1.10
Slovenia	0.00	4.03	72.18	23.79	12,895	16,084,963	2.63	1.21
South Africa	0.00	0.17	93.70	6.13	8,217	221,034	3.27	1.09
South Korea	0.00	2.84	50.72	46.44	36,450	37,207	3.11	0.91
Spain	0.58	15.54	51.79	32.10	22,081	151,087	2.77	1.09
Sweden	0.05	5.52	60.43	34.00	38,409	56,842	2.86	1.04
Switzerland	0.27	17.13	48.39	34.20	75,879	106,299	2.85	1.07
Taiwan	0.00	4.89	48.53	46.58	29,264	45,666	2.44	1.14
Türkiye	0.00	5.51	79.69	14.80	5,801	7,478	3.05	1.38
Uganda	0.00	0.00	94.64	5.36	1,073	24,594	3.26	1.34
Ukraine	0.21	1.32	54.13	44.35	2,721	5,780	3.09	1.32
UK	0.08	1.07	61.25	37.60	36,984	127,316	3.01	1.09
US	0.56	3.63	39.54	56.26	50,000	231,087	3.22	1.35
Uruguay	0.00	1.83	86.29	11.88	1,087	136,507	2.62	1.32

Table 5. Sample characteristics across countries, weighted data (3)

Country	Political orientation (right)		Religiosity		Place of residence	
	M	*SD*	*M*	*SD*	% rural	% urban
Albania	2.95	1.06	3.73	1.16	15.03	84.97
Argentina	3.50	1.15	2.77	1.35	10.50	89.50
Australia	3.38	1.08	2.67	1.41	26.34	73.66
Austria	2.98	0.95	2.29	1.27	50.25	49.75
Bangladesh	3.79	1.29	4.02	1.13	39.95	60.05
Belgium	3.17	1.09	2.07	1.18	54.95	45.05
Bolivia	3.55	1.23	3.47	1.24	15.77	84.23
Botswana	3.29	1.14	3.77	1.31	36.26	63.74
Brazil	3.30	1.46	3.71	1.27	15.73	84.27
Bulgaria	3.23	0.88	2.99	1.19	17.91	82.09
Canada	3.02	1.05	2.49	1.35	26.99	73.01
Chile	3.08	1.16	2.87	1.42	14.61	85.39
China	2.69	0.96	2.02	1.24	9.98	90.02
Colombia	3.11	1.27	3.42	1.38	12.30	87.70
Congo DR	3.38	1.60	4.21	1.06	3.08	96.92
Costa Rica	3.60	1.17	3.41	1.37	39.67	60.33
Côte d'Ivoire	3.07	1.20	4.27	1.13	20.76	79.24
Cyprus	3.16	0.87	3.28	1.24	11.35	88.65
Czech Republic	3.33	0.96	1.89	1.22	23.71	76.29
Denmark	3.05	1.05	2.19	1.15	28.18	71.82
Egypt	4.05	1.25	4.21	0.93	9.47	90.53
Ethiopia	3.17	1.25	3.85	1.23	28.14	71.86
Finland	3.17	1.09	2.25	1.23	23.93	76.07
France	3.17	1.20	2.01	1.17	51.74	48.26
Georgia	3.21	1.10	3.15	1.30	11.75	88.25
Germany	2.95	0.84	2.10	1.24	43.68	56.32
Ghana	3.50	1.22	4.05	1.21	26.33	73.67
Greece	3.06	0.83	3.14	1.29	13.93	86.07
Hong Kong	3.08	0.72	2.11	1.32	2.30	97.70
Hungary	3.12	1.11	2.27	1.23	31.43	68.57
India	3.49	1.27	3.79	1.04	32.18	67.82
Indonesia	3.54	0.90	3.74	0.84	24.29	75.71
Ireland	2.96	1.01	2.55	1.26	39.79	60.21
Israel	3.48	0.95	2.23	1.25	16.26	83.74
Italy	3.04	1.12	2.75	1.30	30.33	69.67
Japan	3.27	0.84	2.61	1.16	54.16	45.84
Kazakhstan	3.33	0.92	2.90	1.09	16.61	83.39
Kenya	3.55	1.14	4.20	1.06	26.42	73.58
Malaysia	3.16	0.71	3.82	1.05	24.10	75.90
Mexico	3.02	1.16	3.04	1.23	17.16	82.84
Morocco	3.47	1.00	3.69	1.01	13.00	87.00
Netherlands	3.16	1.08	1.99	1.28	45.15	54.85
New Zealand	3.37	1.08	2.71	1.45	23.31	76.69
Nicaragua	2.88	1.35	3.53	1.25	27.23	72.77
Nigeria	3.51	1.13	3.92	1.20	27.73	72.27
Norway	3.06	1.13	2.14	1.25	44.62	55.38
Peru	3.54	0.98	3.23	1.10	10.97	89.03
Philippines	3.63	0.99	3.59	1.15	41.33	58.67
Poland	3.14	1.20	2.82	1.27	23.20	76.80
Portugal	2.87	0.91	2.39	1.09	26.18	73.82

Romania	3.17	1.09	2.34	1.27	21.99	78.01
Russia	3.12	0.88	2.57	1.16	12.93	87.07
Serbia	2.80	0.99	3.19	1.24	21.20	78.80
Slovakia	2.98	1.07	2.97	1.33	35.40	64.60
Slovenia	2.86	1.11	2.51	1.37	34.59	65.41
South Africa	3.36	1.09	3.69	1.33	14.80	85.20
South Korea	3.14	0.99	2.27	1.35	10.06	89.94
Spain	2.86	1.12	2.33	1.27	20.22	79.78
Sweden	3.15	1.16	1.84	1.12	30.20	69.80
Switzerland	3.14	1.03	2.24	1.24	54.48	45.52
Taiwan	3.19	0.68	2.97	1.26	21.48	78.52
Türkiye	2.98	1.43	3.41	1.17	7.05	92.95
Uganda	3.97	1.20	4.38	0.99	13.03	68.97
Ukraine	3.36	1.15	2.93	1.20	20.27	79.73
United Kingdom	2.99	1.03	2.07	1.24	33.03	66.97
United States	3.44	1.26	3.28	1.43	35.69	64.31
Uruguay	2.83	1.37	2.19	1.34	9.87	90.13

Table 6. Share of respondents failing the attention checks across countries (percentage of country sample).

Country	% failed 1st check (write "213")	% failed 2nd check (select strongly disagree)	Country	% failed 1st check (write "213")	% failed 2nd check (select strongly disagree)
Albania	3.6	35.6	Italy	0.8	33.9
Argentina	13.7	36.3	Japan	1.5	31.1
Australia	2.2	18.4	Kazakhstan	21.8	29.3
Austria	5.3	14.2	Kenya	4.4	20.4
Bangladesh	2.7	38.7	Malaysia	1.7	42.8
Belgium	5.8	18.6	Mexico	8.6	36.3
Bolivia	10.5	35.1	Morocco	2.3	32.7
Botswana	3.7	16.7	Netherlands	1.7	25.9
Brazil	10.4	38.1	New Zealand	2.0	19.2
Bulgaria	6.9	27.6	Nicaragua	10.3	27.6
Canada	2.4	19.5	Nigeria	2.1	16.6
Chile	8.3	28.1	Norway	3.0	22.6
China	2.2	24.4	Peru	4.6	27.8
Colombia	4.9	24.1	Philippines	2.5	39.2
Congo DR	1.6	14.3	Poland	1.6	33.4
Costa Rica	10.8	31.6	Portugal	0.0	23.8
Cyprus	5.4	29.2	Romania	0.7	4.1
Czech Republic	1.8	34.7	Russia	16.1	11.7
Côte d'Ivoire	3.3	21.3	Serbia	2.2	19.7
Denmark	3.5	26.3	Slovakia	0.6	15.2
Egypt	2.7	14.3	Slovenia	4.0	30.6
Ethiopia	8.5	35.9	South Africa	5.7	19.6
Finland	2.2	17.7	South Korea	0.5	30.9
France	2.3	19.3	Spain	3.9	28.2
Georgia	26.3	38.2	Sweden	2.8	23.4
Germany	3.5	12.0	Switzerland	3.6	23.3
Ghana	1.9	26.3	Taiwan	1.2	20.4
Greece	1.5	31.0	Türkiye	2.0	44.1
Hong Kong	1.2	30.1	Uganda	3.4	27.3
Hungary	1.9	34.5	Ukraine	3.2	26.7
India	3.6	43.1	United Kingdom	1.5	10.9
Indonesia	0.7	23.5	United States	4.1	26.9
Ireland	2.3	31.0	Uruguay	1.0	7.2
Israel	3.1	9.9			

Table 7. Polychoric Exploratory Factor Analysis with the 12-item scale measuring perceived trustworthiness of scientists

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Competence						
Expert		0.58				0.33
Intelligent		0.80				
Qualified to conduct high-quality research		0.73				
Integrity						
Honest	0.69					0.39
Ethical	0.50					
Sincere	0.64					
Benevolence						
Concerned about people's wellbeing			0.74			0.26
Eager to improve others' lives			0.66			
Considerate of others' interests			0.30		0.57	
Openness						
Open to feedback				0.64		
Willing to be transparent	0.45			0.48		
Pay attention to others' views				0.44	0.47	

Note: EFA used oblique rotation (geominQ) and principal axis factoring. Loadings < |.20| not displayed.

Table 8. Polychoric Exploratory Factor Analysis with the SciPop Scale measuring science-related populist attitudes

	Factor 1	Factor 2	Factor 3	Factor 4
Conceptions of the ordinary people				
Ordinary people have in common that they trust their common sense in everyday life.				0.74
Ordinary people are of good and honest character.				0.45
Conceptions of the academic elite				
Scientists are only interested in their own advantage.	0.32		0.51	
Scientists are in cahoots with politicians and businesses.			0.79	
Demands for decision-making sovereignty				
Ordinary people should have influence on the work of scientists.		0.8		
Ordinary people should be involved in decisions about the topics scientists research.		0.72		
Demands for truth-speaking sovereignty				
Ordinary people should trust their life experience more than the recommendations of scientists.	0.71			
Our society should rely more on common sense than on scientific studies.	0.77			

Note: EFA used oblique rotation (geominQ) and principal axis factoring. Loadings < |.20| not displayed.

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