

Sustaining the trustworthiness of science

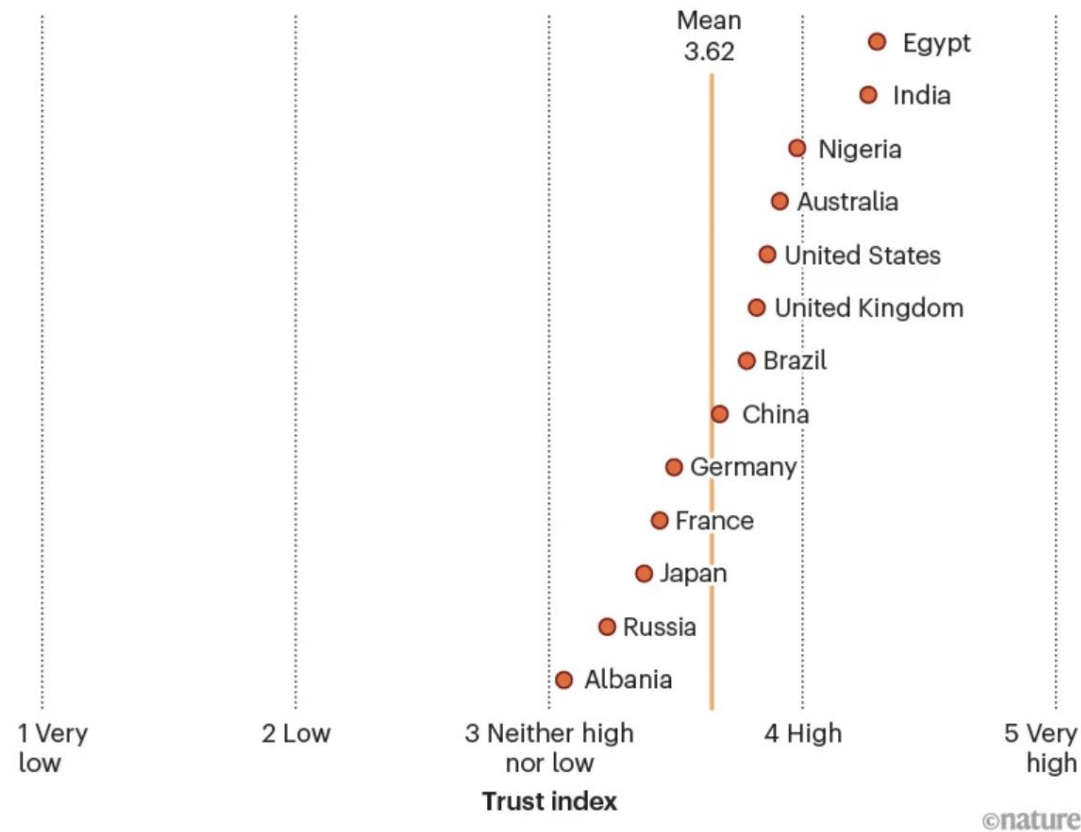
Sir Peter Gluckman
Director: Koi Tū, Centre for Informed Futures
President, International Science Council

Science Council of Japan, Tokyo 13 July 2026

Trust in science and scientists is high

SOLID SUPPORT FOR SCIENCE

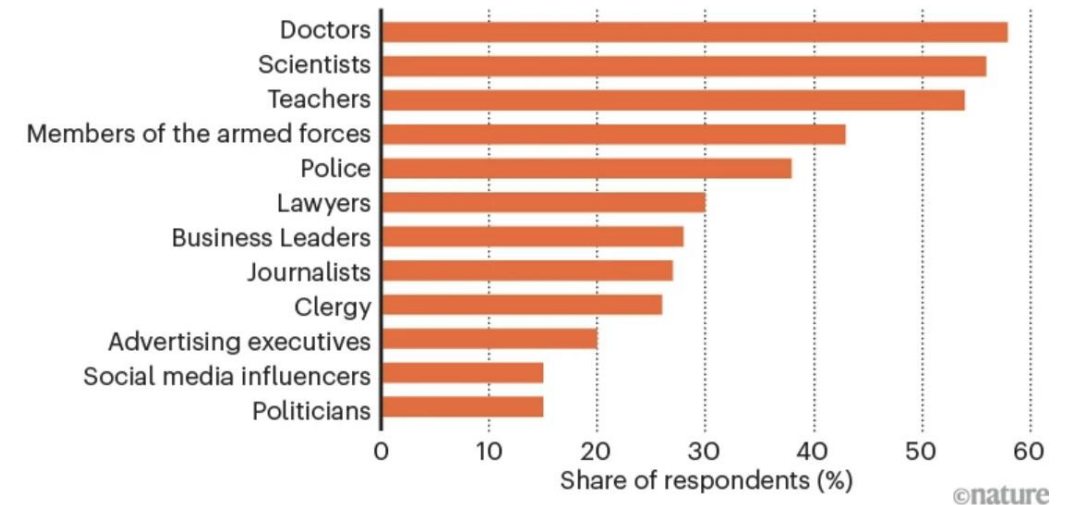
A survey of nearly 72,000 people in 68 countries found relatively strong trust in science but with significant differences among nations. Trust was measured by asking 12 questions to develop a composite score.



Source: Ref. 3.

TRUST IN PROFESSIONS

Scientists ranked higher than almost all other professions in a 32-country survey of more than 23,000 people who were asked whether those in different job categories were trustworthy.



Source: Ipsos Global Trustworthiness index 2024.

There is no crisis of trust in science

But

- ❖ The minority of people who do not trust science can have disproportionate effects on policy and public opinion
- ❖ Rapid changes in who, where and how science is done and, in particular, the impact of AI, will mean new social practices in science may need to be developed if science is to sustain its trustworthiness

Trust and trustworthiness - some definitions

Trust is based on a relationship. It may be interpersonal or between institutions or between individuals and institutions

Trustworthiness is the characteristics of the individual or institution which allows trust to be placed in them

But:

- Trust can be placed in a person/institution that is not trustworthy with consequences (e.g. cyberscams)
- Trustworthy institutions/persons may not earn trust (e.g. public health institution)

What is science?

Modern science is:

- an organized system of knowledge based on observation, theory and experimentation
- it is subject to open evaluation allowing critical review and contestation by expert peers
- explanations can only be based on logic, theory and past observations excluding explanations based on tradition or dogma
- The processes of science are designed to minimize the impact of observer or analytical bias
- It is these features that make science a universal knowledge system
- But science coexists with other knowledge systems

Trust in science – what does that mean?

Science is a complex network of multiple institutions, scientists as collectives and individuals

- Government agencies
- Funders
- Universities and. research institutes,
- Research projects and programs
- Scientific teams
- Individual scientists
- Publishers and the record of science
- Communicators

Epistemic trust and the *social norms and practices of science* are key to being trustworthy.

Epistemic trust: trust in another person's claims to be possessing reliable knowledge or observations on which to act. It is an essential elements for effective collaboration, team science, fair peer review and for scientific knowledge to accumulate built on past science.

The risks to trustworthiness beyond science

Populists view science as an elite institution and that is sufficient to distrust

They do not think science has any more validity than their own opinion

While extreme views are a small minority of people, they can have disproportionate influence

Candace Owens: *I'm not a flat earther. I'm not a round earther. Actually, what I am is somebody who has left the cult of science.*



Science, politics and society

Scientific evidence may be in conflict with:

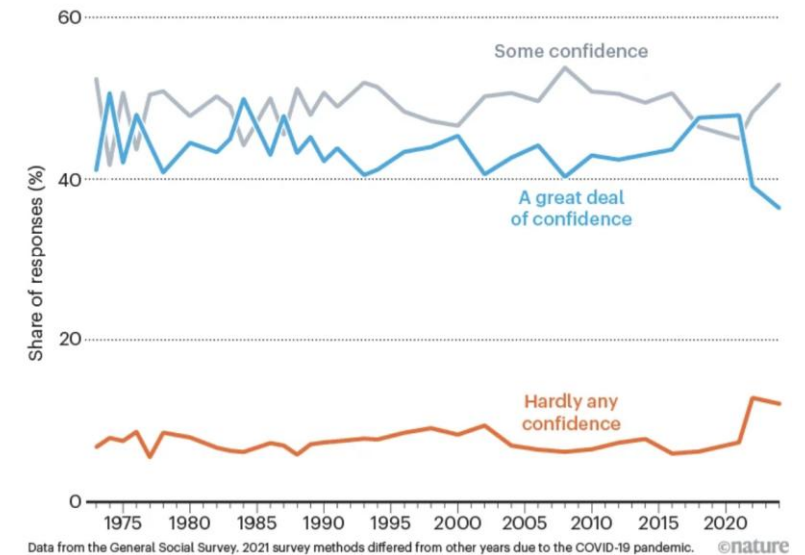
- political ideology
- electoral opinion
- fiscal interests
- short-termism
- values and worldviews
- private sector interests

Science can be cherrypicked or selectively accepted or rejected (climate change, vaccination, genetic modification)

But science may be coopted inappropriately by politicians
“we are just following the science” was a misused claim in Covid

US CONFIDENCE IN SCIENCE

A national survey shows that people in the United States have had generally stable confidence in the scientific community over the past half-century, although the proportion with a great deal of confidence has declined sharply in the past few years.



Source: General Social Survey.

Science and the public

- The role of science communicators – a growing profession in a new information environment
- Scientist as a citizen versus as an expert
- Communicating uncertainty and the inferential gap between what we know and conclude
- Science education

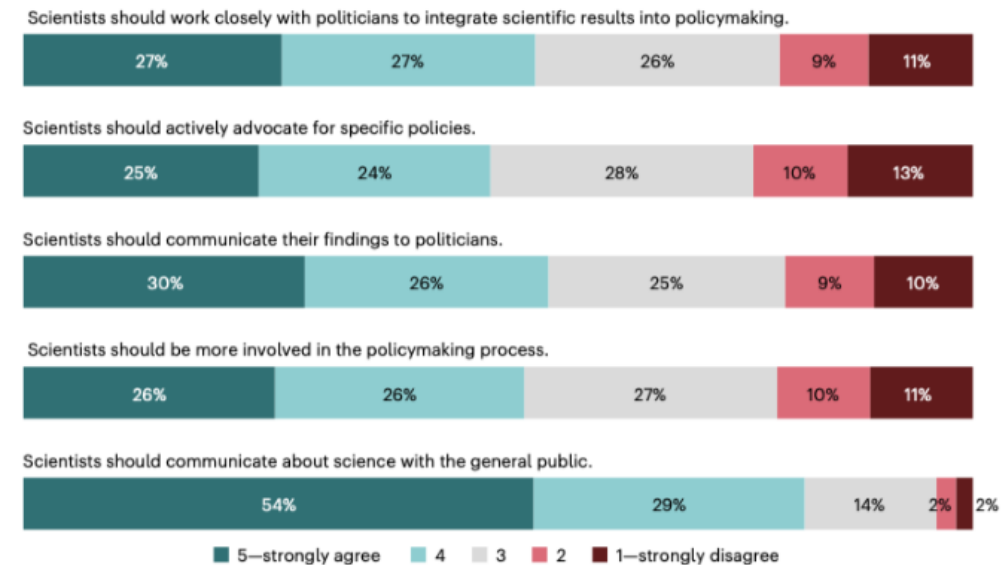


Fig. 4 | Normative perceptions of scientists in society and policymaking. Normative perceptions of scientists in society and policymaking using weighted response probabilities.

Cologna et al Nature 2025

The risks within science

- ❖ AI is changing how science is done. Are the social norms and practices of science appropriate for the digital and AI age.
- ❖ The nature of progress in science is such that it increasingly entangled with interests and contested values.
- ❖ How to protect the integrity of science and science advice to remain trustworthy.
- ❖ The growing role of the private sector in discovery science

APPLICATIONS ON THE RISE

Data from 12 funding bodies* show a rise in grant applications since the release of the chatbot ChatGPT, in 2022.

Average increase in grant applications compared with 2022



*Data for 5 of the 12 funding bodies correspond to a single grant call or scheme; the remaining 7 aggregate all or most grant calls for that funder.

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Source: G. Rees & J. Wilsdon

The role of self-regulation

- Perceptions of an institution as trustworthy depend on regulation and external processes.
- But science is almost entirely self-regulated, reliant on social norms and practices within the science community and is generally seen to have an impersonal relationship to the public.
- Ensuring those social practices are robust is becoming a challenge
 - There is no defined pathway for becoming a scientist
 - Funding is largely decided by committees of scientists – AI has overloaded the system
 - Peer review is key to funding and publication and is vulnerable – what will be the role of AI
 - Research activity is entirely dependent on social practices and epistemic trust – AI is creating a new black box

Other internal challenges to trustworthiness

- ❖ Scope of ethical considerations
- ❖ The challenge of bibliometric incentives
- ❖ Reproducibility and replicability
- ❖ Transparency in declarations of interest
- ❖ The state of the record of science
- ❖ Ensuring equitable global participation

The record of science

A loss of trust in the record of science will compromise trust in science

- Peer review is in trouble – massive increase in AI and questionable papers being submitted
 - Predatory journals with no peer review
 - Paper mills – papers written for a fee (AI)
 - False authorships (AI)
 - False references (AI)
-
- The ISC-Publishers initiative

Science is global but its social practices may not yet be well-positioned to ensure trustworthiness in this context

- Science in the global south has greatly expanded
- But science in the global north still dominates in funding
- Patronizing behaviors persist by both global north funders and scientists
- This is reminiscent of colonial attitudes and leads to misleading rhetoric that modern science is western science
- Science must be sensitive to issues of data and IP sovereignty and respect indigenous and other knowledge systems without conflating them.
- The role of transdisciplinary approaches
- The ISC – led, European Commission funding multilateral dialogue on principles and values of international science cooperation



In summary

- ❖ While other institutions have seen a decline in trust, science and scientists are generally seen as trustworthy.
- ❖ But the potential impact of those who do not trust science is not negligible.
- ❖ Science is a complex network which is self-regulatory and dependent on its social practices.
- ❖ These social practices are vulnerable;
 - the training of scientists is capricious,
 - bibliometric incentives undermine trustworthiness.
- ❖ There is a particular challenge of protecting the public record of science
- ❖ The social practices of science may need significant revision in the face of AI.
- ❖ Globalized science offers important opportunities but there are challenges in engaging diverse cultures and knowledge systems; done poorly it undermines trust
- ❖ If science is to continue to have positive impact on human and planetary well-being we will need to be more proactive and preemptive in protecting its trustworthy nature and in improving the communication of scientific knowledge.