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## Review

# What is trust (in science and scientists) and is it in crisis?

Ben Seyd

Public trust in science and scientists contributes to important social beliefs and behaviours. Yet it is sometimes believed to be in crisis. This article reviews what trust consists of and how it is typically measured. Drawing on national and international survey data, it shows there is little evidence of a public crisis of trust. While there is evidence of a polarisation of trust in certain countries, this picture does not apply more widely. Nonetheless, initiatives to maintain public trust are important; but these should focus on scientists' wider social position and roles rather than simply emphasising their competence. If there is a problem, it lies in the limited influence of scientific messages rather than in public distrust of scientists.

## Addresses

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Popular trust in science and scientists has become a hot topic for researchers and policy-makers, alongside a cause for widespread concern. The intensity of the topic increased on the back of the Covid-19 pandemic starting in 2020, when populations across the world were faced with often draconian social restrictions that were frequently justified by reference to scientific guidance. People's compliance with these rules was seen to substantially depend on their degree of trust in scientists and the scientific process [1]. At the same time, trust in science and scientists has also become an increasing cause of concern, on the back of anti-vaccination and anti-lockdown movements, attacks on areas of scientific consensus such as climate change and verbal and physical assaults on prominent scientific figures [2,3]. This is

reflected in a shift in the scholarly focus on public attitudes, away from 'knowledge deficit' models – where the impediment to scientific influence is seen to lie in inadequate popular understanding of science – to 'trust deficit' models – where that impediment is seen to reflect negative popular evaluations of science and scientists [4,5].

This article presents an overview of popular trust in science and scientists. It starts by considering the meaning of trust, before exploring how trust is typically measured. It then examines the distribution of trust across and within national populations. The coverage proceeds to consider which factors shape people's trust in science and scientists before concluding by considering the implications for any 'crisis' of trust.

## What is trust in science and scientists?

Trust in science and scientists usually arises in the context of technical information provided to citizens with the aim of guiding them towards individually and socially beneficial decisions. Most citizens lack the knowledge to independently evaluate such information; instead, they often fall back on a judgement about whether the science or scientists responsible for the information can be trusted [6,7]. This form of trust is sometimes referred to as 'epistemic trust'; an individual's belief that a scientist – or science more generally – is likely to provide accurate information [8,9].

Trust is valuable, since it enables individuals to benefit from scientists' expertise and knowledge. In turn, this facilitates optimal decision-making on issues marked by both complexity (with individuals ill-equipped to make informed decisions by themselves) and risk (where poor decisions expose the individual – and the wider community – to costly consequences). Hence trust in scientists has been identified as an important contributor to such socially beneficial activities as climate-friendly behaviour [10], confidence in medical vaccinations [11], and compliance with collective rules to suppress viral spread [12].

Citizens can separately trust the general enterprise (ie. trust in science) and the individuals operating within that enterprise (ie. trust in scientists). Popular attitudes

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For complete overview about the section, refer [Trust in Science and Beyond \(2026\)](#)

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towards science are often measured via evaluations of the broad benefits of science [13], and so might be labelled ‘support for science’ rather than trust per se. Where trust in science and scientists are measured together, the global distributions are broadly similar [14], although they appear to rest on different origins. Thus, in some countries, people’s trust in scientists has been found more closely linked to their trust in political actors like government than to their trust in science. As a result, in some countries, people’s trust in scientists associates with perceptions of corruption in government, while such perceptions do not associate with their trust in science [15].

Trust in scientists might itself be sub-divided according to the identity of the actors. For example, studies have identified higher levels of public trust in scientists working in research institutes and universities than in scientists working for private companies [16]. Trust also varies by scientific field; for example, scientists working in the field of natural science have been found more trusted than scientists working in the field of economics [17].

Finally, trust in science and scientists is closely related to other concepts such as ‘science skepticism’ [18], which taps the opposite of trust, namely distrust (Note that the ‘skepticism’ referred to here is analogous to science ‘rejection’, and not to be confused with the interrogative skepticism that is intrinsic to the scientific method [19].) Other concepts often discussed in the context of trust — such as ‘deference to scientific authority’ [20] and ‘science-related populism’ [21] — are arguably better treated as potential outcomes — or alternatively as possible determinants — of trust.

### How is trust measured?

Trust tends to be measured via social surveys, and through single-item questions that ask “How much do you trust scientists?” (European Social Survey), or “How much do you trust scientists to tell the truth?” (Ipsos), or even questions that reference confidence rather than trust: “How much confidence do you have in the scientific community?” (General Social Survey). Survey questions asking about people’s trust in scientists are more common than analogous questions about trust in science.

While such survey questions represent the norm for measuring trust, they are problematic for two primary reasons. The first is that trust is often argued to be a multidimensional concept, formed from evaluations of distinctive traits and attributes of scientists. While empirical studies differ on the number and character of such dimensions [22–25], all concur that trust is not unidimensional in a way that would allow ready and valid measurement via single-item survey questions. The

second problem is that, while existing survey items might measure people’s trust in science and scientists, they don’t readily tap more negative evaluations, or distrust [3,26,27]. An absence of trust does not equate to the presence of distrust. For example, an individual may feel a scientist lacks the attributes necessary for her to trust them; but she does not thereby distrust them [28]. If we want to understand popular negativity towards science and scientists, researchers need to move beyond measures tapping different levels of trust and to develop and field explicit measures of distrust.

### Levels of trust

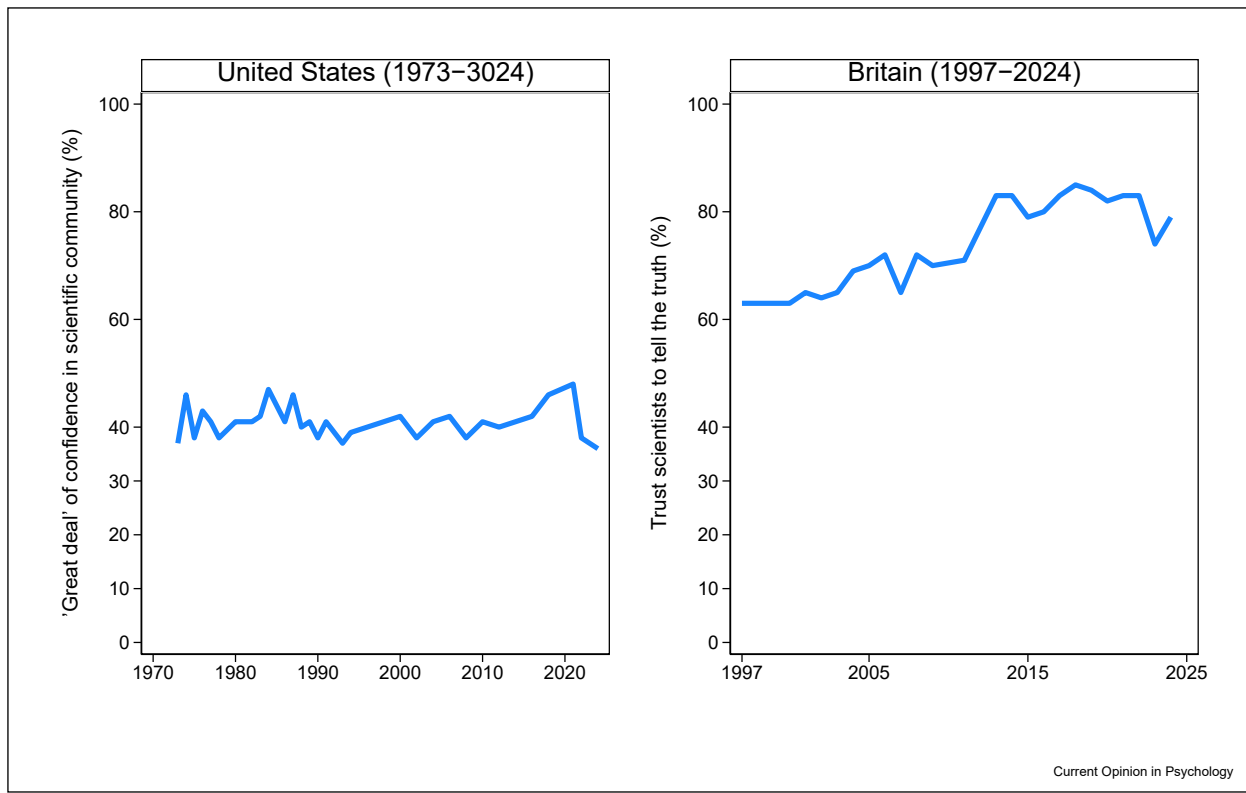
With these measurement caveats in mind, we can now consider what the survey data tell us about any ‘crisis’ of public trust in science and scientists. In fact, the evidence for such a crisis is thin. Simple eyeballing of longitudinal data from the United States (US) suggests no significant drop-off in levels of public trust, which have remained broadly consistent over more than four decades since the early 1970s (see the left-hand panel of Fig. 1; also [29]).<sup>1</sup> Similar analysis of data from Britain shows that public trust in scientists has increased in the almost three decades since 1997 (right-hand panel of Fig. 1). There is some evidence of a dip in public trust in scientists after the Covid-19 pandemic in the early 2020s, particularly in the US (although this dip was not restricted to scientists, and also affected groups like the military and religious leaders [30]).

A recent 68-nation study found a positive distribution of people’s trust in scientists, with a global mean of 3.62 on a 1 (low trust) to 5 (high trust) scale [31], with no country showing a trust score below the mid-point of 3. A 32-country survey conducted by Ipsos in 2024 found on average that 56 % of people trusted scientists, while just 15 % expressed distrust (see also [14]). However, the same study highlighted substantial differences in trust between national populations. Thus, while 70 % of Argentinians and Indonesians expressed trust in scientists, just 43 % of Japanese did likewise [32]; see also [14,33].

Levels of trust within national populations tend to vary rather little. The recent 68-nation study found that variations in trust by gender, age, income, education and rural/urban location were generally small [31]. Some studies in the US have pointed to lower levels of trust in scientists among right-leaning ideologues or supporters of right-wing parties [29,30,34,35]; a similar picture has also been found in countries such as Germany [36]. In the US, visual inspection of the data suggests Republicans to have been generally more trusting in

<sup>1</sup> While around 40 % of the US population professes a ‘great deal’ of confidence in scientists, a similar proportion professes ‘only some’ confidence. Yet only around 10 % express ‘hardly any’ confidence. This suggests reasonably high levels of confidence in scientists among the US population at any one point in time.

Figure. 1



Trends in trust in scientists.

Sources: US - General Social Survey ([link](#)); Britain - Ipsos ([general link](#); data on scientists provided to author by Ipsos)

scientists than Democrats up to 2000, whereas thereafter these differences have subsequently reversed. The last two decades or so have witnessed a growing 'trust gap' between partisans, particularly after the Covid-19 pandemic in 2020 (Fig. 2).

This might suggest a growing public polarisation in attitudes towards science and scientists, as scientific endeavour becomes caught up in partisan competition. However, the most recent and extensive cross-national study pointed to relatively weak associations between political ideology and trust in scientists outside the US [31]. The US appears to represent an exception, rather than the norm, in the degree to which trust in scientists has been politicised.

Yet while national populations generally manifest high trust in science and scientists, they view some aspects of scientists and their work more critically. For example, surveys highlight some public skepticism about scientists' impartiality and integrity [30] and about their benevolence and transparency [24,31,37].

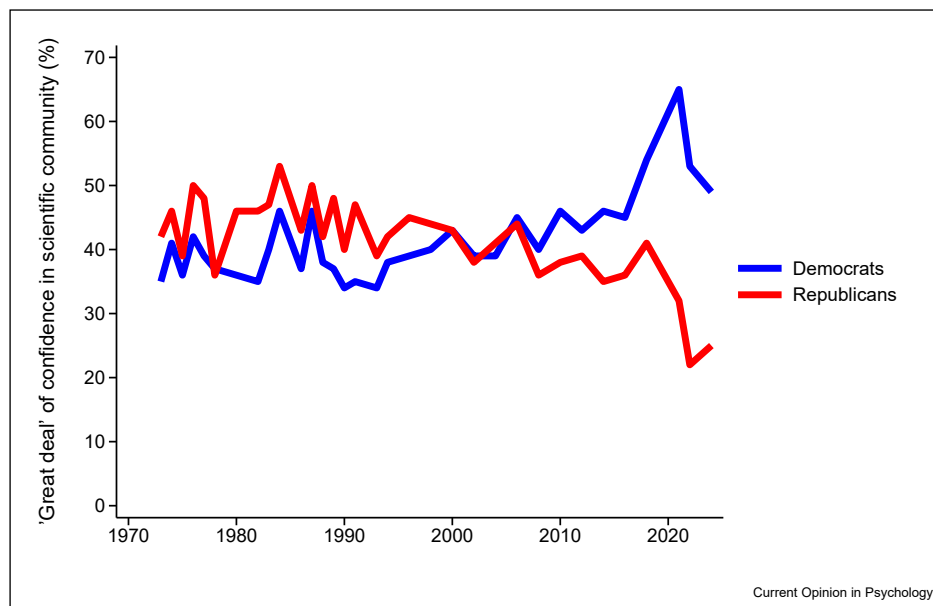
### Why do people trust (or distrust) science and scientists?

Popular trust in science and scientists appears to rest on a range of considerations that operate at the macro-level, meso-level or micro-level.

Macro-level considerations relate to the broad relationship individuals have with science and scientists. In this vein, people may distrust science either because it is based on knowledge and understandings they (feel) they lack (the 'knowledge deficit' model), or because science and scientists are seen as promoting information that clashes with their own beliefs and worldviews [38].

Meso-level considerations relate to the perceived qualities and features of science and scientists. One key finding from studies in this area is that, while perceptions of scientists' knowledge and expertise are important contributors to 'epistemic' trust, wider aspects of scientists' qualities and work are also important [39,40]. While some studies find that people's trust is associated most closely with assessment of scientists' competence

Figure. 2



Trends in trust in scientists by partisanship, United States.

Source: General Social Survey ([link](#))

[36,39,41], other studies find trust to be closely associated with assessments of scientists' benevolence [16,42], objectivity and truthfulness [43,44] and openness and transparency [45].

Micro-level considerations relate to particular ways in which scientific information is communicated to the public. For example, trust has been found to be higher in cases where people are presented with balanced, or two-sided, scientific information rather than unbalanced, or one-sided, information [46]. There is also evidence that trust in scientists is affected by the degree of declared uncertainty accompanying scientific information, although the direction (positive or negative) of such effects is unclear [47].

### Conclusion: A 'crisis' of trust?

The evidence from surveys conducted within and across countries does not point to any clear 'crisis' of public trust. What appears to have caused concern is either that individuals appear to be ignoring scientific information when it comes to their personal behaviour, or evidence of low trust among particular social groups. The latter is especially pronounced in the US — where trust among Republican voters has fallen dramatically — although not apparent in many other countries. When it comes to the public heeding of scientific messages — for example on the need for vaccination or the reality and causes of global warming — dissenting behaviours need not betoken a crisis of trust. Public attitudes and behaviours

reflect a number of factors besides trust in science and scientists (for example, fears and anxieties, beliefs and worldviews and the influence of partisan and media messages). While some people seemingly act in ways contrary to scientific evidence, this highlights the limits of scientific influence and not necessarily a problem of trust [48,49].

While there is no denying evidence of low trust in scientists among certain social groups, or of critical public appraisals of some aspects of scientists' work, the solution does not consist of blindly seeking to replenish trust. Trust that is misplaced is no better — and, indeed, is often worse — than trust that is absent. Misplaced trust can induce credulity, opening up individuals to believing and/or sharing misleading or erroneous scientific claims [50]. The goal should, instead, be 'warranted' trust; trust that reflects the existence in a scientific actor or enterprise of desirable features that render them trustworthy [51]. In this vein, some scientists have taken the lead by instituting new rules and practices — notably over research transparency and more intensive public communications — designed to address public distrust [38]. Yet any route to greater trust needs also to work through scientists' status as social actors, and the public's appraisals of them as such, and not simply as disembodied providers of knowledge and expertise.

### Credit author statement

All research/writing tasks: BS.



## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

The data presented in this paper are publicly available via <https://gssdataexplorer.norc.umd.edu/trends?category=Politics&measure=consci>.

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- \* of special interest
- \*\* of outstanding interest

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## Further information on references of particular interest

3. General review of the supposed ‘crisis’ of public trust in science.
  - \* Argues that greater precision in understanding public attitudes should involve closer distinctions between different objects of trust and between different forms of trust.
17. Explores heterogeneity in public evaluations of scientists. Tests differences in public trust across 45 types of scientists, including how competent, warm and moral each type of scientist is seen to be. The study points to differences in public evaluations of different scientists, and highlights the multi-attribute nature of trust.
  - \*
25. Provides the most recent validated measurement scale to test public trust in scientists. Drawing on a two-wave survey of German citizens, the study identifies five core components of public trust: expertise, integrity, benevolence, transparency and openness to public dialogue.
  - \*
30. Reviews trends in US citizens’ trust in different types of scientists, and identifies some of the specific beliefs – both positive and negative – that shape people’s trust in scientists. The findings are used to identify ways in which scientists might seek to boost public trust.
  - \*
31. Explores public trust in scientists from populations across 68 countries. Finds moderate-high levels of trust, although with substantial variations between countries. Demographic features of individuals are generally weakly associated with trust, while the association with trust of religiosity and political orientation varies between countries.
  - \*
34. Provides a broad review of the social standing of science and the scientific community. Identifies a number of threats to the legitimacy of science, both from within the discipline (eg. reproducibility) and from outside it (political polarisation).
  - \*
41. Empirical examination of different ways of measuring trust in science and scientists. Casts doubt on direct, single-question, measures of trust by highlighting uncertainty about which aspects of trust – competence, benevolence and integrity – are associated with these measures, and by showing that the measures correlate weakly with behavioural measures of trust.
  - \*