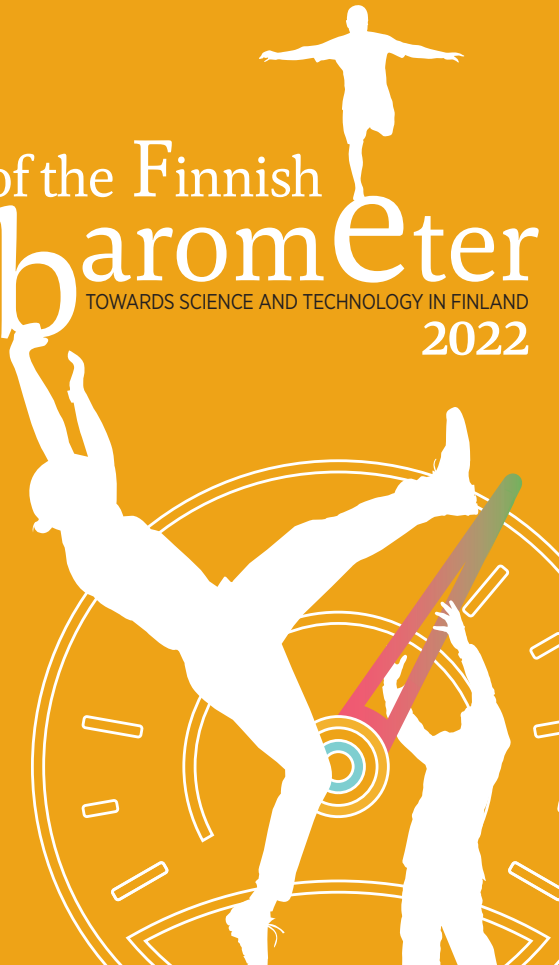


Summary of the Finnish Science barometer

A STUDY OF PUBLIC OPINION AND ATTITUDES

TOWARDS SCIENCE AND TECHNOLOGY IN FINLAND

2022





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To the reader

The Finnish Science Barometer is intended to gauge public opinion and attitudes towards science. Commissioned by the Finnish Society for Scientific Information, it has been published every three years since 2001. From the outset, the barometer has shown that there is a high level of public trust in science and research in Finland.

The 2022 barometer survey was conducted by Kantar. Public trust in science remains high and in some respects has strengthened. Two in three respondents thought the COVID-19 pandemic had contributed to increase trust in science and scientists.

That trust is not universally shared, though. In some survey items a small group stood out for their attitude of distrust towards science.

The Science Barometer sent a strong message in favour of increased funding for science. Likewise, a clear majority supported a stronger role for scientific evidence and research knowledge in political decision-making.

This report presents the main results of the barometer.

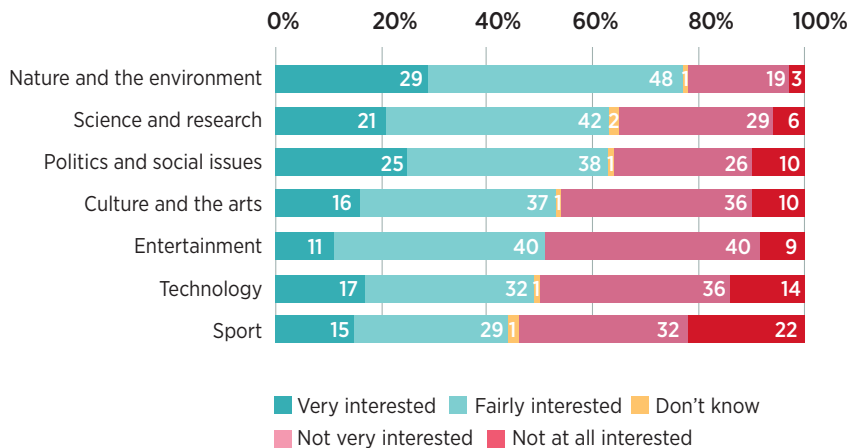
FURTHER DETAILS on the results and socio-demographic differences are provided (in Finnish) at www.tieteentiedotus.fi/TB2022tilastot.pdf Items on which additional information is available online are indicated in the text with an asterisk (*).

High public interest in science

Almost two in three respondents said they were interested in science when asked which subject areas they followed. Public interest in science was slightly higher than in the previous survey. This suggests that science has come closer to people's everyday life.

A somewhat higher proportion of men (72%) than women (56%) were interested in science. Education is a major distinguishing factor. The vast majority of tertiary education graduates (83%) said they were at least fairly interested in science. On the other hand, more than one-third of respondents expressed no interest in science.*

How interested are you in the following subject areas?

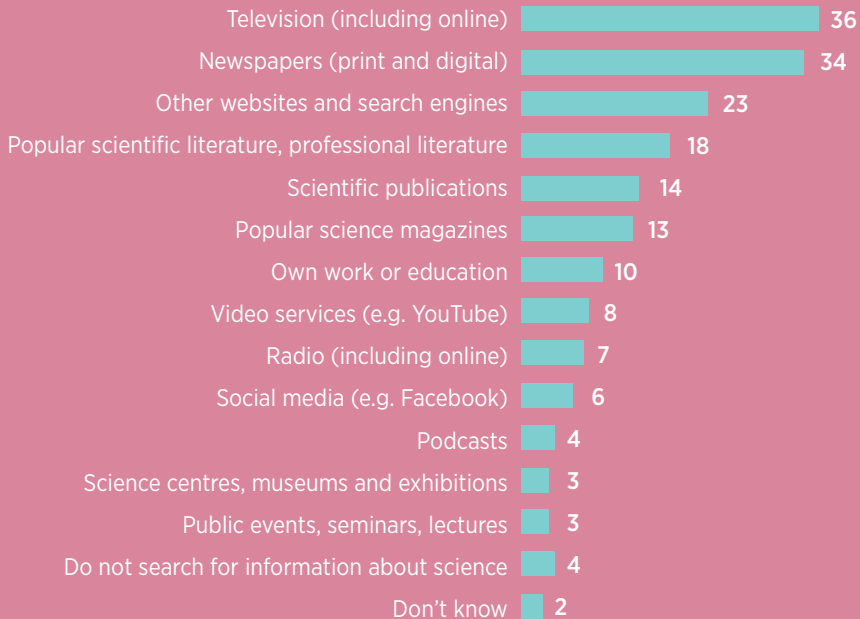


TV top source of information

News media are Finns' most important source of scientific information. When asked to name their top two sources, respondents most frequently mentioned television (36%), newspapers (34%) and websites and search engines (23%). Only 4% of respondents said they did not search for information about science at all.

The importance of information sources varied widely by age group: people over 50 tended to rely on TV and newspapers, while those under 30 preferred websites, video services and social media. The youngest respondents consulted different sources quite evenly.*

Top two sources of information about science and scientific advances (%)



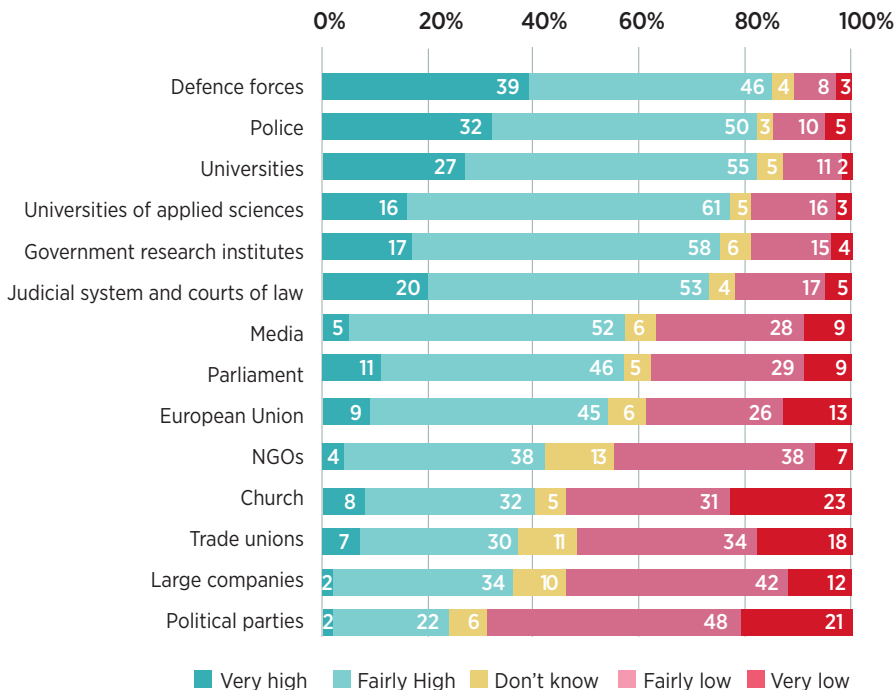
Defence forces enjoy highest trust

The most trusted institutions and organisations have long been ranked in the same order in the Science Barometer: the police, the defence forces, and universities. This time, however, the defence forces came out on top.

One possible explanation is the timing of the survey. In early summer 2022, life in Finland was overshadowed by the Russian war of aggression against Ukraine, and opinion polls showed that most people now wanted the country to join NATO.

Although the proportion of respondents with very high or fairly high trust edged up slightly from the previous survey, an increase was also seen in the percentage of those who said they did not trust national institutions. The latter figure ranged from 11% (defence forces) to 22% (judicial system). Some respondents who earlier did not state their position now expressed their distrust. The polarisation of trust reflects, in part, an international trend.

Trust in social institutions



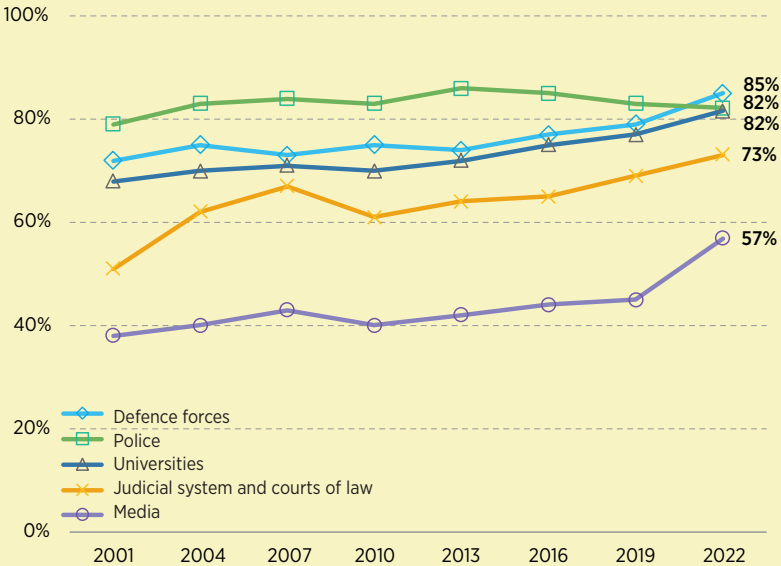
Changes in trust

Public trust in universities has risen steadily and now reached almost the same level as trust in the police, previously the most trusted social institution in the country.

The level of public trust in the defence forces, now the most trusted institution, has risen in tandem with trust in universities. Trust in the judicial system has also increased markedly during the 2000s. Perhaps the most striking change from the previous survey is the growth of trust in the media. International surveys have likewise reported an increased level of trust in the media during the pandemic. In many countries, however, this trend tapered off in the second year of the pandemic.

Trust in institutions 2001-2022

Percentage of respondents with very high and fairly high trust



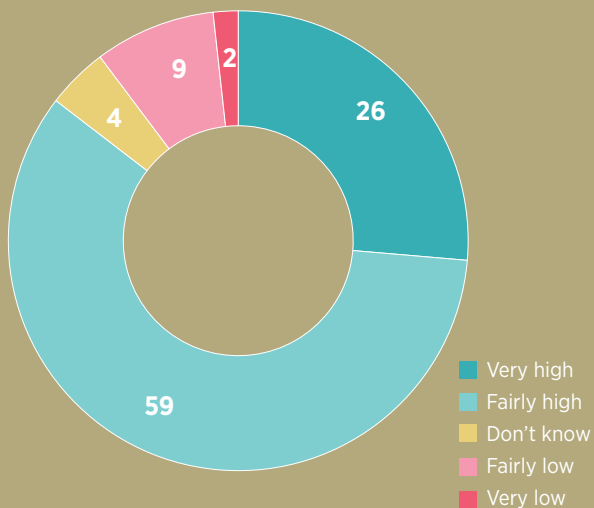
Strong public trust in science

An overwhelming 85% majority of respondents trusted science and research. On the other hand, 11% said they had only little trust in science.

Socio-demographic differences were relatively small, although the higher educated expressed stronger trust in science than respondents with less education.*

By political party identification, Green Party and National Coalition Party supporters had the highest trust in science. Even among Finns Party supporters – the group with the largest share of distrusting respondents (24%) – more than two-thirds (71%) said they trusted science.*

Trust in science and research (%)



Most trusted scientists and experts

Respondents were asked to name a maximum of three scientists or experts whom they considered trustworthy. The list was heavily dominated by the Ukraine war and the COVID-19 pandemic: half of the top ten names were known as media commentators on these recent crises.

By far the most frequently mentioned name was that of political scientist Mika Aaltola, who overtook Esko Valtaoja for the top spot. Next on the list were Mika Salminen and Hanna Nohynek, two high-profile COVID-19 commentators.¹⁾

¹⁾ Minor spelling mistakes were disregarded in counting the names. This had no effect on the final ranking order.

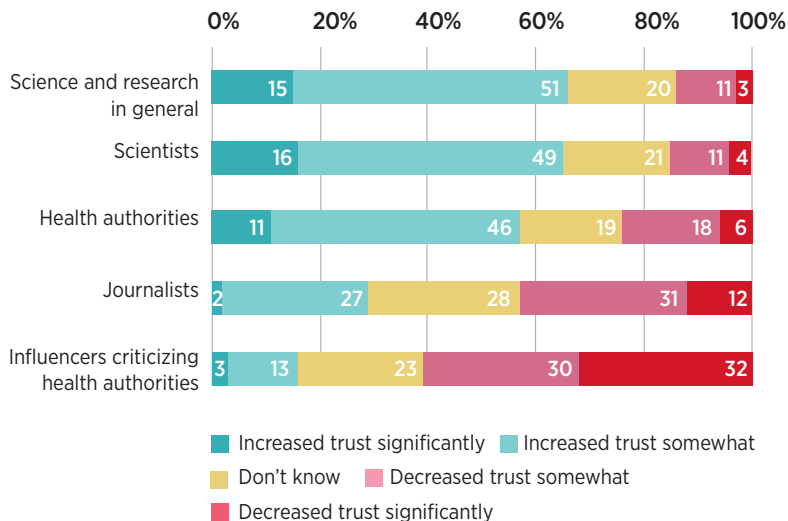
MIKA AALTOLA.....	90
ESKO VALTAOJA.....	45
MIKA SALMINEN.....	27
HANNA NOHYNEK.....	19
KARI ENQVIST.....	14
TEEMU KESKISARJA.....	8
CHARLY SALONIUS-PASTERNAK.....	8
BENGT HOLMSTRÖM.....	7
SIXTEN KORKMAN.....	7
LEENA PELTONEN-PALOTIE.....	6
RISTO E. J. PENTTILÄ.....	6
MIKA RÄMET.....	6

COVID-19 strengthened public trust

The COVID-19 pandemic also served as a stress test for social trust. It seems that science stood up to this test quite well as two in three respondents thought their trust in science and scientists had increased with the pandemic. Trust in health authorities increased as well.

On the other hand, the results showed similar signs of polarisation to those seen in attitudes towards vaccinations (see pages 32–33). Between 14% and 24% of respondents thought their trust in science, scientists and health authorities had decreased. This reflects the public debate waged during the COVID-19 pandemic, in which individual experts and authorities have occasionally come under highly visible criticism.

Impact of COVID-19 pandemic on trust



Polarisation in COVID-19 attitudes

An open-ended question was included in the survey to elicit views on whether and how the COVID-19 era had increased or decreased trust in experts.

The responses reflected a polarisation of attitudes. Many of those who had trusted science before felt their trust had grown even stronger with COVID-19. On the other hand, for respondents with pre-existing doubts about science and experts, the COVID-19 crisis likewise reinforced their views.

I have always trusted experts but the epidemic has just strengthened my view that experts are more knowledgeable than lay people and that their expertise should be trusted...

– MALE, 37, TURKU

It adds to your trust to see that kind of courage to change opinions and guidelines based on science and new research results.

– FEMALE, 61, HELSINKI

The whole corona pandemic has been marked by the public acceptance of just one truth and the categorisation of people based on their vaccination status. The ties of “experts” with pharmaceutical companies have been ignored, which has eroded trust in their independence.

– FEMALE, 50, HELSINKI

Follow the money! It is shocking to see experts talk the talk of those who are funding them in the name of science. Science is also becoming politicised. No good.

– MALE, 50, HELSINKI

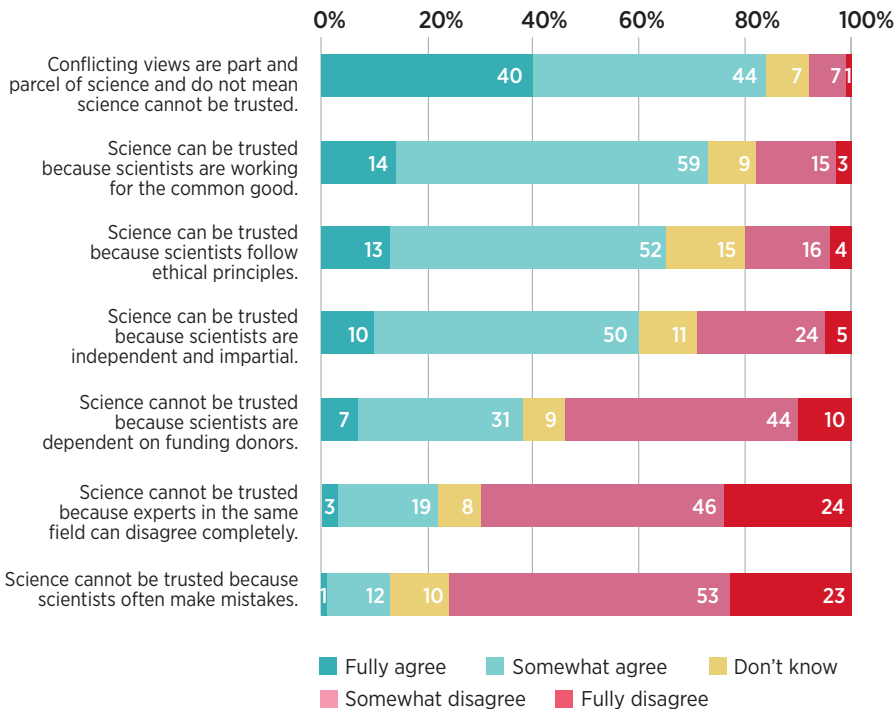
Why is science trusted?

In contrast to common belief, the airing of conflicting expert views does not seem to erode trust in science. People in Finland are realistic about scientific findings and experts' opinions: knowledge and opinions are bound to change with the accumulation of scientific evidence.

73% of respondents thought science can be trusted because scientists are working for the common good. Two-thirds of respondents also trusted scientists' ethical judgement.

Of rather more concern was the dependence of scientists on funding donors. However, more than half of respondents felt that this funding dependence does not undermine trust in science.

Assessments of statements regarding the reliability of science



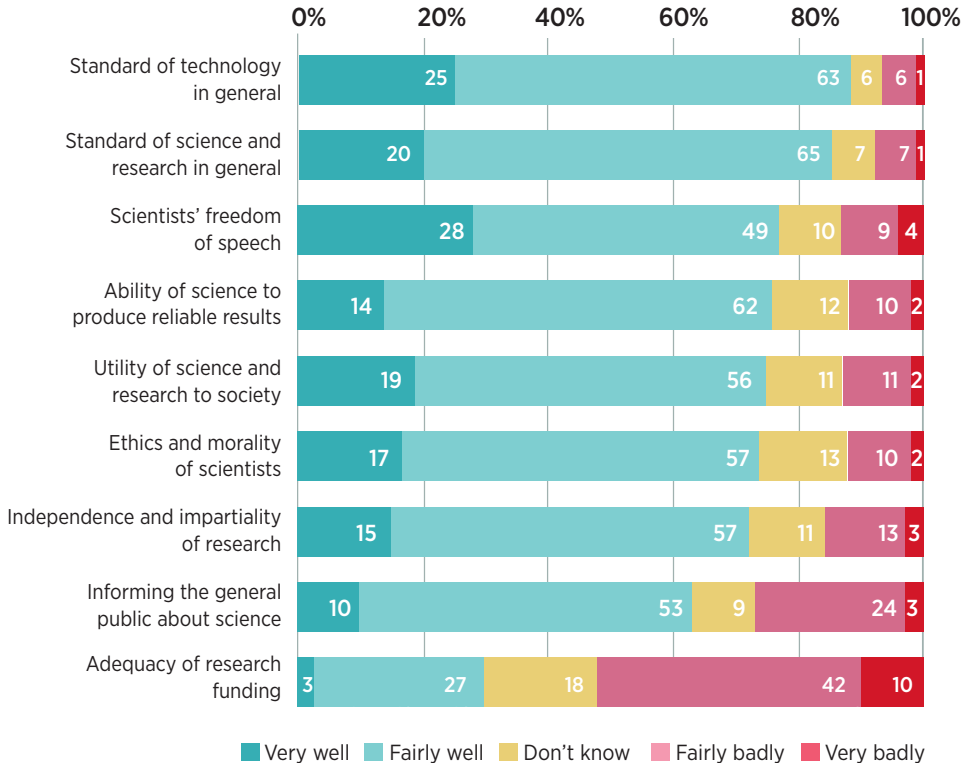
Assessments of the state of science

Respondents had very positive assessments of the state of Finnish science and technology. Overall, the ratings were somewhat stronger than in the previous 2019 survey. Technology received a high quality score from 88% and science from 85% of respondents.

A clear majority of respondents thought science produced reliable and useful results for society.

Views did not differ very widely by political party identification. Coalition Party supporters had a somewhat more positive assessment of the state of Finnish science, while Finns Party supporters were more pessimistic than others in their assessment.*

Assessments of the state of science and research



Role of science in solving problems

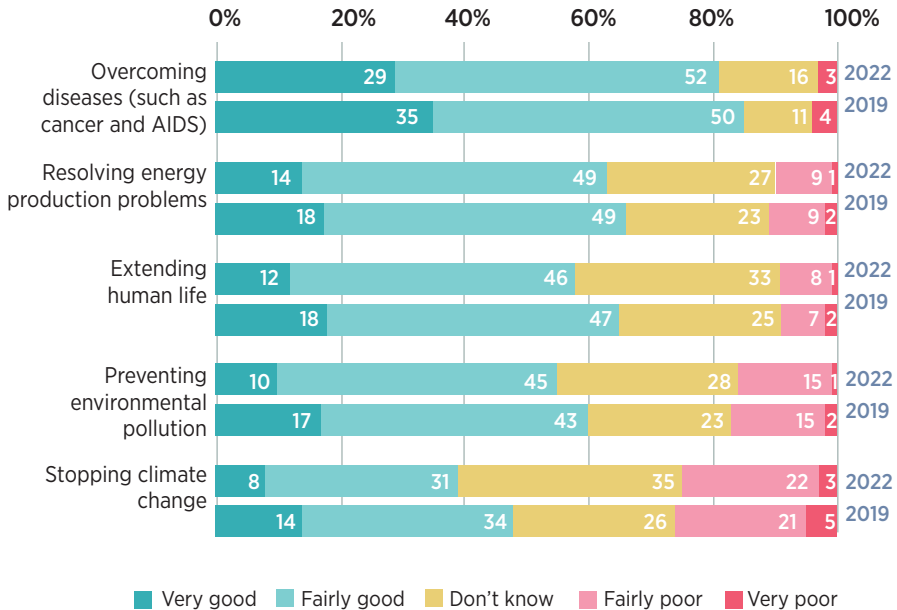
Trust in the ability of science to solve various types of problems had faded somewhat since the previous survey. This is not entirely unexpected given the prominence of such issues as COVID-19, the Ukraine war and the climate crisis in public discussion.

On the other hand, this also marks a reversal in the long-term trend: barometer results for trust in the ability of science to bring solutions to social problems had generally strengthened up until 2019. The one exception was science's ability to overcome diseases, where trust already began to fade in the 2019 survey.

Earlier attitude surveys have shown that public opinion in Finland differs from many other European countries.⁽¹⁾ Finnish people tend to think that tough social problems cannot be solved by science and technology alone, but other means and methods are also needed.

⁽¹⁾Eurobarometer: European citizens' knowledge and attitudes towards science and technology (European Commission 2021). Available for download at <https://europa.eu/eurobarometer/surveys/detail/2237>.

Assessments of science's problem-solving ability



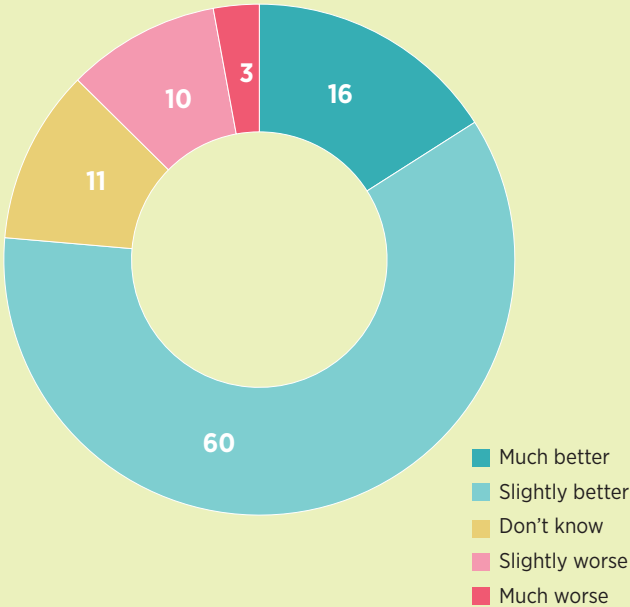
Science and the future

A strong majority of respondents, 76% thought that advances in science and technology will change everyday life for the better over the next 10–20 years. 13% expected a turn for the worse.

Respondents identifying with the upper (86%) or lower (81%) middle class expected scientific and technological progress to change everyday life for the better somewhat more often than working-class identifiers (65%).*

Coalition Party (90%) and Green Party (86%) supporters shared this view more often than Left Alliance (73%) or Finns Party (67%) supporters.*

Assessments of the impact of science and technology on everyday life over the next 10–20 years (%)



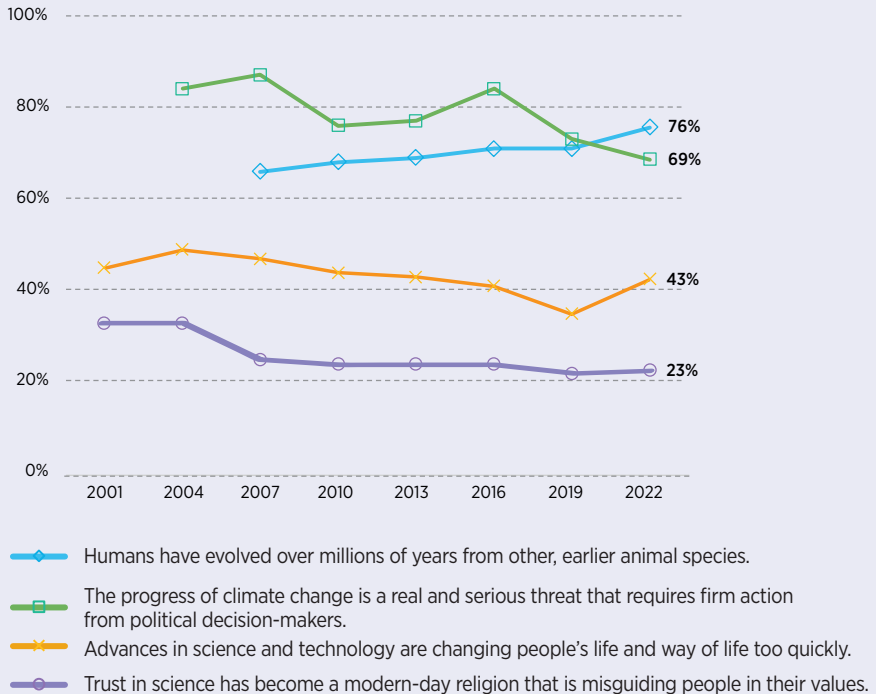
Science and world view

In 2007 the discovery that only two-thirds of people in Finland accepted the theory of evolution stirred a public debate. Since then, public support for evolution has risen steadily and now reached 76 per cent. But the opposite has happened with views of the seriousness of climate change. The latest results show that only just over two-thirds of respondents think climate change is a serious threat.

The number of respondents agreeing that *advances in science and technology are changing people's life and way of life too quickly* was much higher than in the previous survey. This, too, probably reflects the uncertainty of the times.

Science and world views 2001–2022

Percentage of respondents who fully or somewhat agreed



Complementary and alternative medicine

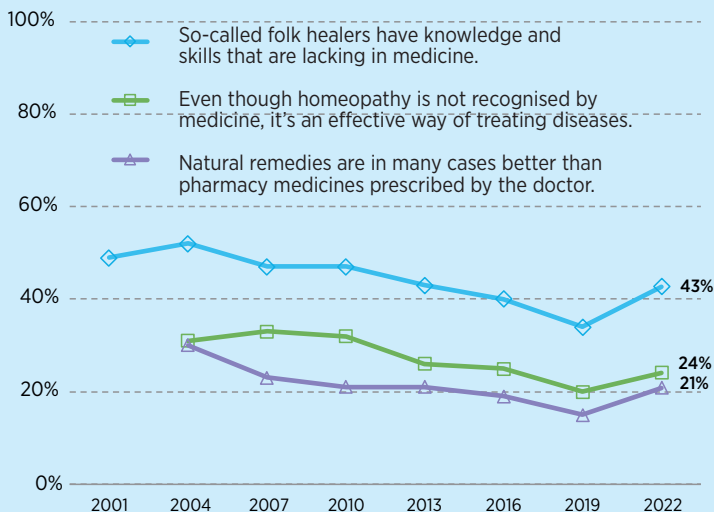
There has been much talk in Finland about the growing popularity of CAM. The Science Barometer, however, has not backed this up as the use of alternative therapies has declined throughout the 2000s.

But it seems that this trend has now been reversed as trust in folk healers, homeopathy and natural remedies increased in comparison to the previous survey.

One reason for these changes might lie in the COVID-19 pandemic, which brought more exposure for alternative views and public criticism of health authorities. Furthermore, natural products and CAM therapies attract much attention and publicity especially in social media but also in news media.

CAM therapies, 2001–2022

Percentage of respondents who fully or somewhat agreed



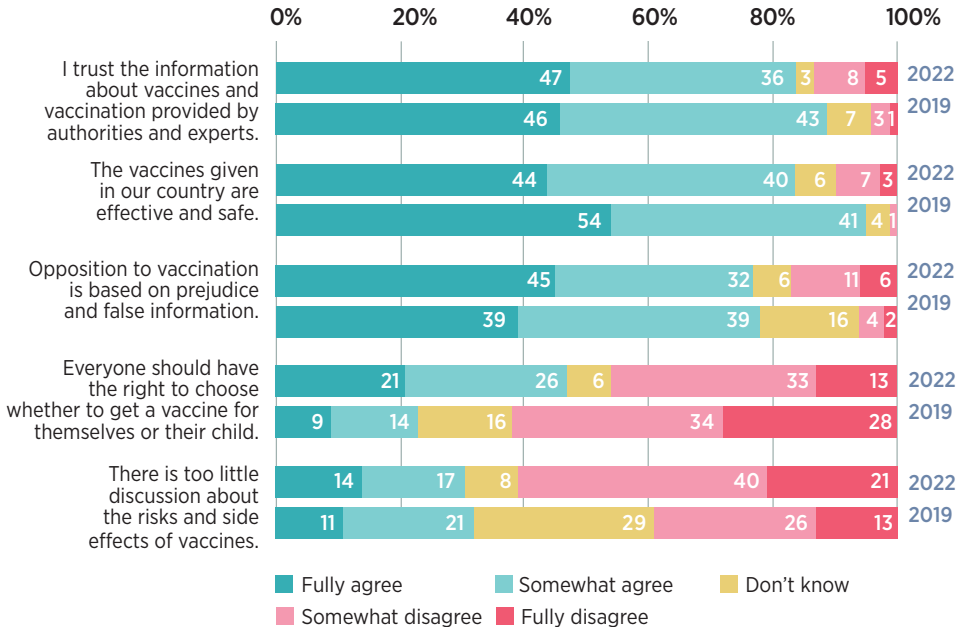
Opinions on vaccination

Attitudes towards vaccination were polled for the first time in the 2019 Science Barometer. Trust in official information about vaccines and vaccine safety remains almost as high as in 2019, but it seems that attitudes have become more polarised. This is reflected in the increased proportion of respondents with misgivings and the reduced number of those not expressing their views. People in Finland have high trust in vaccines when compared internationally.⁽¹⁾

The biggest increase is seen in the proportion of respondents who believe everyone has the right to choose whether to get a vaccine for themselves or their child. In 2022 they slightly outnumbered those who took the opposite view.

⁽¹⁾Eurobarometer: Attitudes on vaccination against Covid-19 (European Commission 2021). Available for download at <https://europa.eu/eurobarometer/surveys/detail/2512>.

Attitudes towards vaccination

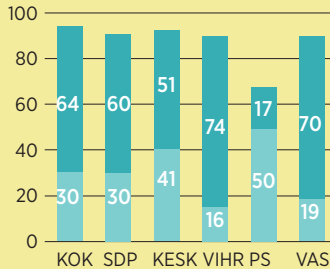


Political party identification makes a difference

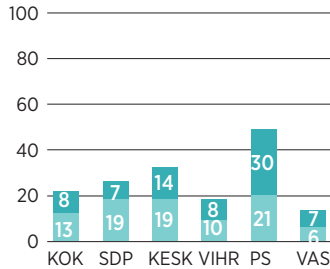
Trust in official vaccine information was high among supporters of all political parties. It was lowest among Finns Party supporters, but even in this group more than two-thirds said they trusted the information given by authorities.

There was slightly more divergence in views about the risks of vaccines and freedom of vaccination choice. Finns Party supporters stood apart from other groups in that they were most concerned about the side effects of vaccines and supported freedom of vaccination choice. Centre Party supporters also differed somewhat from other groups in these questions.

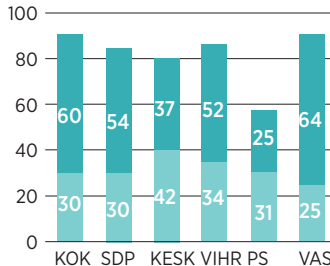
I trust the information about vaccines and vaccination provided by authorities and experts (%)



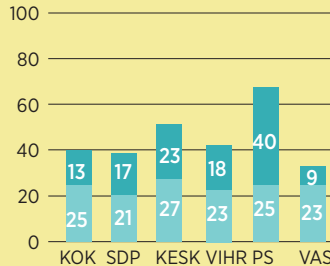
There is too little discussion about the risks and side effects of vaccines (%)



Refusal to get the recommended vaccinations is irresponsible towards other people (%)



Everyone should have the right to choose whether to get a vaccine for themselves or their child (%)



Fully agree Somewhat agree

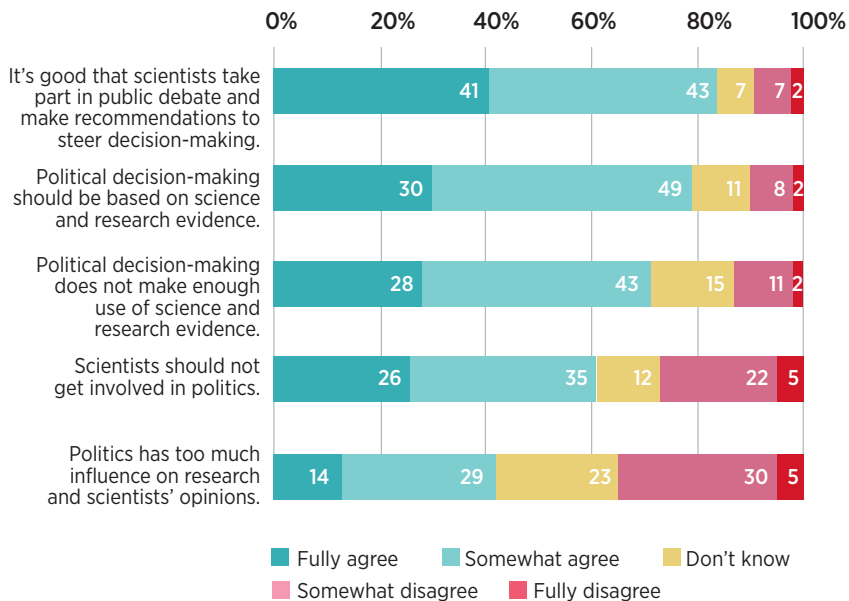
KOK = National Coalition Party / SDP = Social Democratic Party / KESK = Centre Party / VIHR = Green Party / PS = Finns Party / VAS = Left Alliance

Relationship of science and politics

There is strong public support in Finland for using science as a tool in political decision-making. More than four in five respondents thought it was good that researchers take part in public debate and make recommendations to steer decision-making. Almost as many took the view that political decision-making should be based on science and research evidence.

The dividing line between science and politics was nonetheless considered important. The majority of respondents accepted the statement that scientists should not get involved in politics. The influence of politics on scientists' opinions was another cause for concern.

Assessments of the relationship between science and politics



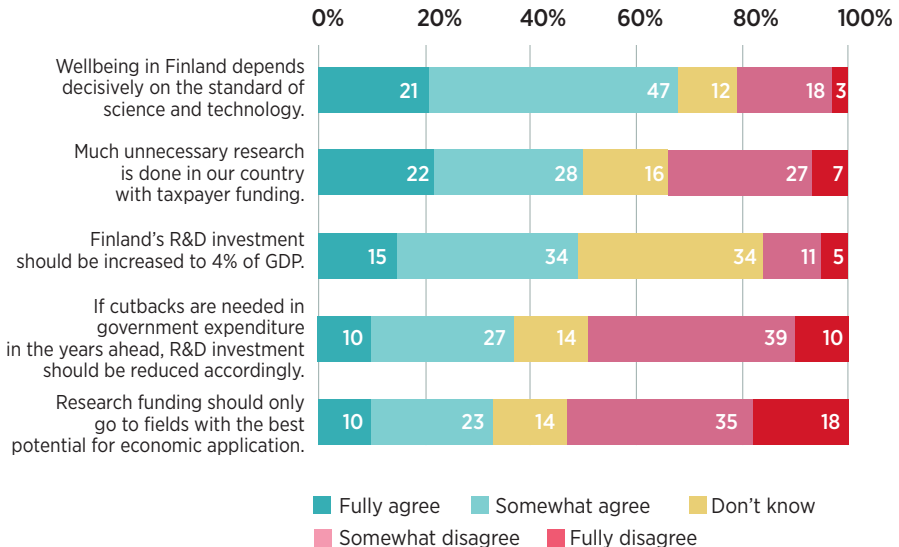
More money for science

More than two in three respondents were of the view that wellbeing in Finland depends decisively on the standard of science and technology. Almost half thought that R&D investment should be increased to 4% of GDP. Roughly one in five disagreed.

Almost half of respondents expressed the view that science and R&D investment should be exempt from any expenditure cutbacks needed in the years ahead. More than one-third disagreed.

Almost half of respondents agreed with the statement that much unnecessary research is done in our country. On the other hand, the majority took the view that research funding should only be awarded to fields with the best potential for application.

Assessments of the relationship between science and society

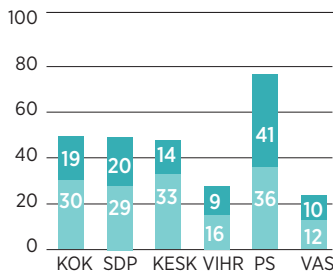


Opinions by party political identification

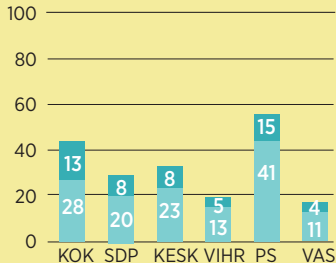
Support for increasing R&D expenditure to 4% of GDP was strongest among Coalition Party and Green Party supporters. Finns Party and Centre Party supporters, on the other hand, were the strongest advocates of cuts to science and research funding. Green Party and Left Alliance supporters were most firmly against such cuts. Almost four in five Finns Party supporters were of the opinion that much unnecessary research is done in our country.

Opinions were also sharply divided over the allocation of research funding: more than half of Finns Party supporters wanted to see research funding awarded based on criteria of economic benefits, among Left Alliance and Green Party supporters this view was shared by less than one in five respondents.

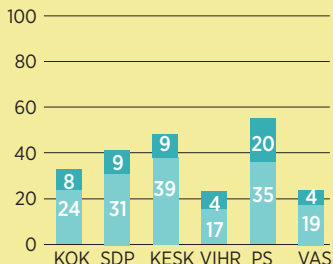
Much unnecessary research is done in our country with taxpayer funding (%)



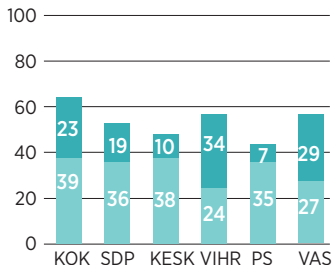
Research funding should only go to fields with the best potential for economic application (%)



If cutbacks are needed in government expenditure in the years ahead, R&D investment should be reduced accordingly (%)



Finland's R&D investment should be increased to 4% of GDP (%)



Fully agree Somewhat agree

KOK = National Coalition Party / SDP = Social Democratic Party / KESK = Centre Party / VIHR = Green Party / PS = Finns Party / VAS = Left Alliance

The Science Barometer survey

The 2022 Science Barometer survey was conducted via Gallup Forum, Kantar's online respondent panel, between 27 May and 11 June 2022. Altogether 1,085 persons took part. The respondents represent the Finnish population aged over 18, excluding residents of Åland.

To improve the reliability of statistical conclusions, the data are weighted by gender, age and place of residence to better represent the population. The statistical margin of error is around +/- 3.0 percentage points.

The Finnish Science Barometer has been conducted every three years since 2001. Previously data were collected by postal questionnaire, but in 2019 an online survey was collected alongside the postal survey because response rates had been steadily falling. The new method of data collection proved reliable, paving the way to develop the online version.







Photos: Pekka Korvuo, The Night of Science 2020.

