



SCIENCE **20**
BAROMETER+ **19**

Dear Sir or Madam,

Should scientists call for public attention when they find that research results are not sufficiently taken into account in political decision making? Against the background of many researchers engaging in political activism in the context of protests against current climate policies, this question has been subject to intense debate within the political and scientific sphere.

In the science barometer 2019, the clear majority of respondents answer this question with ‚Yes‘ (p. 27/28). 75 per cent of respondents agree that researchers should speak up when political decisions do not consider scientific findings.

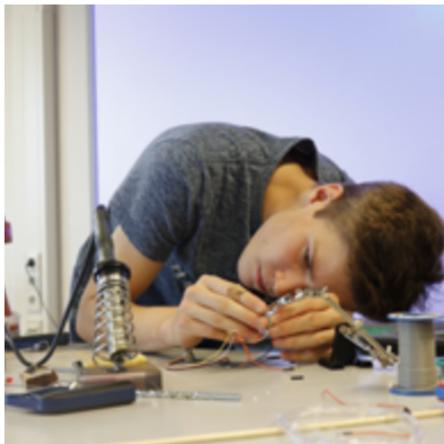
To be able to do so, researchers need incentives, support and acknowledgement of their work in science communication. These are necessary conditions for enabling the scientific community to fulfil the high expectations of the public, who hopes for research to provide solutions to societal challenges (p. 29/30), and to ensure high levels of public trust in science (p. 9/10).

Us being able to once again offer you exciting insights into public opinion on science and research in Germany is owed to the support of the science barometer by Robert Bosch Stiftung and the advice of our scientific advisory board. Many thanks!

I wish you an inspiring read,

A handwritten signature in black ink, appearing to read 'M. Weißkopf', written in a cursive style.

Markus Weißkopf, Managing Director *Wissenschaft im Dialog*



What is the science barometer?

Through the science barometer, *Wissenschaft im Dialog* annually surveys public attitudes towards science and research in Germany. Together with a scientific advisory board a questionnaire is designed each year which includes questions from previous survey waves but also new ones. For all results of the 2019 survey and all previous survey waves as well as further information, please visit www.sciencebarometer.com.

Who is responsible for the science barometer?

Wissenschaft im Dialog (WiD) is a non-profit organisation founded by the German science organisations. Our work focuses on the public discussion of science and research in Germany. *WiD* aims to arouse and strengthen interest in science among people of every age and background. We aim to achieve this by organising discussions, education projects for schools, exhibitions and competitions – all focused on science and research. We develop new formats for science communication and run events across Germany to reach diverse target groups. Our goal is for as many people as possible to be involved in discussions about research, including its controversial aspects. The results of the science barometer help us in doing so. www.wissenschaft-im-dialog.de

How strong is your interest in ...?

59 per cent of respondents in the science barometer 2019 state that their interest in science and research is somewhat strong or very strong. These numbers are higher than those for politics and culture but lower than for local news.

In the previous year, 52 per cent stated to be interested in science and research and 58 per cent did so in 2017. Once again, higher levels of formal education among respondents are associated with greater interest in science and research, a relationship that also applies for interest in culture and politics but not for local news. To the present, all survey waves of the science barometer show a greater interest in science and research amongst men compared to female respondents. In 2019, 68 per cent of men and 50 per cent of women state an interest.

local news



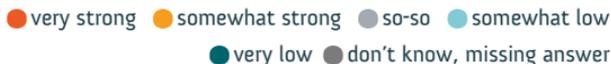
science and research



politics



culture



Number of respondents: 1,017; Figures are in per cent. Numbers may not add up to 100 per cent due to rounding.

How well informed are you about news from science and research?*

As in previous years, around a third of respondents feel somewhat or very well informed about science and research. The proportion of those who feel informed to some extent has been growing since 2014. For the first time, it accounts for more than 50 per cent while the share of respondents who do not feel informed has decreased. In all years, more men than women have reported to feel somewhat or very well informed.

*wording of question differed slightly in 2014-16

2019



2017



2016



2015



2014



● very well
 ● somewhat well
 ● so-so
 ● not very
● not at all
 ● don't know, missing answer

Minimum of 1,000 respondents each year; Figures are in per cent. Numbers may not add up to 100 per cent due to rounding.

How much do you trust ...

In the context of ongoing discussions on fake news and hostility towards experts it is crucial to trace levels of trust in science and research. As in previous years, about half of respondents state that they trust science and research. These numbers are markedly higher than those for trust in business, media and politics. A significant share – 46 per cent in 2019 – is undecided. Eight per cent report to somewhat or completely distrust science and research.

Trust in scientists working in public institutions is higher than in those working in industry. Male respondents are more likely to trust science and research as well as scientists, so are respondents with high levels of education. However, the latter is not true for trust in scientists working in industry.

... scientists working in universities and public research institutes?



... science and research?



... scientists working in industry?



... business?



... media?



... politics?



● trust completely
 ● trust somewhat
 ● undecided
 ● distrust somewhat
 ● distrust completely
 ● don't know, missing answer

Number of respondents: 1,017; Figures are in per cent. Numbers may not add up to 100 per cent due to rounding.

Agreement with: 'The public is sufficiently involved in decisions about science and research.'

Discussions about citizen involvement and public participation do not only play a role in the political sphere but are also relevant in science and research. As in previous years, around half of respondents in the science barometer 2019 hold the view that the public is not sufficiently involved in decisions about science and research. Close to one third are undecided while 16 per cent consider public involvement to be sufficient.

2019



2017



2016



2015



2014



- completely agree
- somewhat agree
- undecided
- somewhat disagree
- completely disagree
- don't know, missing answer

Minimum of 1,000 respondents each year; Figures are in per cent. Numbers may not add up to 100 per cent due to rounding

To what extent do you agree with the following statements?



2019 is the first time that the public interest in engagement with science and research was assessed in more detail. The results show a great potential for science communication: Interest is highest for informative and discussion-oriented formats. Around half of respondents report they would like to participate in a scientific research project – in 2017 the share was 40 per cent. With 61 per cent, the interest in actively participating in research is particularly high among respondents with high levels of formal education, while 50 per cent of those with medium levels of formal education express interest and 35 per cent of those with low levels of formal education. These differences are considerably less prominent for other ways of engaging with science and research.

I would like to experience myself how scientists work.



I would like to discuss with scientists what is worthwhile to conduct research on.



I would like to watch scientists at work, to judge their results.



I would like to participate in a scientific research project.



- completely agree
- somewhat agree
- undecided
- somewhat disagree
- completely disagree
- don't know, missing answer

To what extent do you agree with the following statements?



Opinions on the benefits from science and research in the science barometer 2019 are comparable to the results in previous years and can be described as largely stable.

Respondents with a personal relation to science and research or with high levels of formal education agree to a much greater extent that they personally benefit from science and research. So do 63 per cent of male and 47 per cent of female respondents.

Even if it brings no immediate benefits, research which advances knowledge, should be publicly funded.



I personally benefit from science and research.



All in all, science and research will lead to a better life in the future.



Scientists are aware of the societal impact of their work.



Scientists work for the benefit of society.



- completely agree
- somewhat agree
- undecided
- somewhat disagree
- completely disagree
- don't know, missing answer

Number of respondents: 1,017; Figures are in per cent. Numbers may not add up to 100 per cent due to rounding.

To what extent do you agree with the following statements?



New additions to the science barometer 2019 are several questions concerning the societal impact of science, research and particularly of new technologies. Responses to these questions paint an ambivalent picture, since positive as well as negative effects are acknowledged. This finds expression in the almost equally strong levels of agreement with the statements that technology makes life more comfortable and that technology imposes more constraints on people. Also, more than 40 per cent of respondents agree that we should put more emphasis on what we have and less on new technologies, while around a quarter of respondents oppose this.

Science and research will help us to solve central problems of humankind.



The more technology is progressing, the more it constraints people.



Modern technology makes life more comfortable.



We should put more emphasis on what we have and less on new technologies.



Science and research change our living conditions too fast.



- completely agree
- somewhat agree
- undecided
- somewhat disagree
- completely disagree
- don't know, missing answer

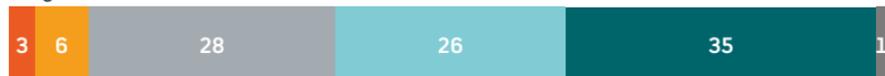
Number of respondents: 1,017; Figures are in per cent. Numbers may not add up to 100 per cent due to rounding.

Agreement with: ,All in all, science and research do more harm than good.’*

Ever since the first science barometer survey wave in 2014 a largely stable majority of 60 to 70 per cent of respondents evaluate the impact of science and research as positive. In all years, respondents with high levels of formal education have done so at higher rates than those with low or medium levels of formal education.

* wording 2014-16: All in all, science does more harm than good.

2019



2017



2016



2015



2014



- completely agree
- somewhat agree
- undecided
- somewhat disagree
- completely disagree
- don't know, missing answer

Minimum of 1,000 respondents each year; Figures are in per cent. Numbers may not add up to 100 per cent due to rounding.

In your opinion, how strong is the influence ...

Just like the last time this question was asked in the science barometer 2017, the majority of respondents think that the influence of business and politics on science is much or somewhat too strong. Almost half of respondents also find that the influence of science on politics is too low. Both in 2017 and this year, these evaluations vary for respondents with different levels of formal education: A higher share of those with high levels of formal education find that the influence of business on science is too strong and that the influence of science on politics is too low than it is the case for respondents with low or medium levels of formal education.

... of business on science?



... of politics on science?



... of science on politics?



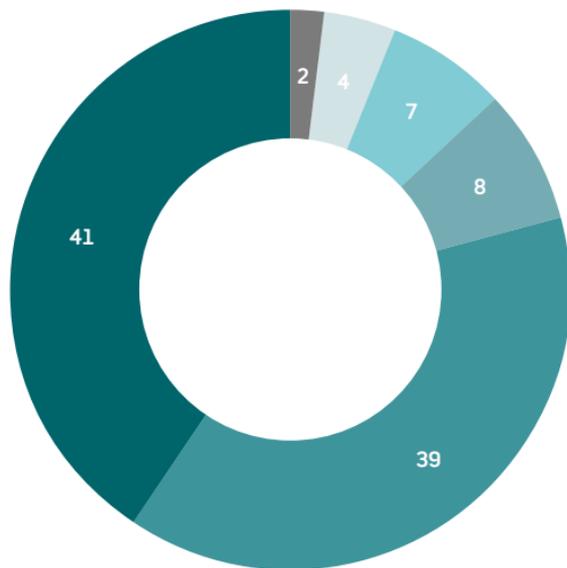
● much too strong
 ● somewhat too strong
 ● just right
 ● somewhat too low
● much too low
 ● don't know, missing answer

Number of respondents: 1,017; Figures are in per cent. Numbers may not add up to 100 per cent due to rounding.

In which area should research be conducted most intensively in the future?

Many people are currently speaking up for changes in climate policy in the context of Fridays for Future. For the respondents of the science barometer 2019 climate and energy also play a central role. When offered the choice between adjacent fields of research, a plurality of 41 per cent of respondents find that research on climate and energy should be prioritised, with health and nutrition as a close runner-up. However, these results are stable in comparison to the science barometer 2017, when this question was last asked and when 40 per cent favoured climate and energy as well as 39 per cent health and nutrition.

In the years 2014 to 2016 the largest share of respondents were still giving priority to health and nutrition. Climate and energy placed second. Starting in 2016 the following pattern has become visible when contrasting responses from men and women: Women tend to choose health and nutrition over climate and energy, while the reverse holds true for men.



● climate and energy ● health and nutrition ● mobility and traffic
● questions of security ● communication and digitalization ● don't know, missing answer

Number of respondents: 1,017; Figures are in per cent. Numbers may not add up to 100 per cent due to rounding.

To what extent do you agree with the following statements?



81 per cent of respondents consider it necessary to reduce what they consume in order to protect the environment. Here again shows the great importance of sustainability within the public. Responses evaluating the impact of globalisation on people in Germany are more ambivalent: A plurality of 43 per cent of respondents are unable to decide whether globalisation will tend to have positive or negative effects.

In order to protect the environment, we all need to reduce what we consume.



Most people in Germany will benefit from globalisation in the future.



- completely agree
- somewhat agree
- undecided
- somewhat disagree
- completely disagree
- don't know, missing answer

Number of respondents: 1,017; Figures are in per cent. Numbers may not add up to 100 per cent due to rounding.

Against the background of 'Fridays for Future', to what extent do you agree with the following statements?*



Three quarters of respondents in the science barometer 2019 agree that scientists should speak up in public when political decisions do not take research results into account. More than half say that political decisions should be based on scientific evidence and 50 per cent hold the opinion that scientists have an obligation to get involved in politics. The strongest support for these statements comes from those respondents with a personal relation to science and research and from those with high levels of formal education.

* Prior to the question, respondents received the following introduction: Currently, many scientists together with school students who protest on Fridays stand up for changes in climate policy. The scientists say that based on research results the current measures for climate protection are not sufficient.

It is right that scientists speak up in public when political decisions do not take research results into account.



Political decisions should be based on scientific evidence.



We should rely more on common sense and less on scientific studies.



It is not up to scientists to get involved in politics.



- completely agree
- somewhat agree
- undecided
- somewhat disagree
- completely disagree
- don't know, missing answer

To what extent do you agree with the following statements?



A majority of respondents consider both the freedom of science and the focus of research on finding solutions to societal problems as important. On an individual level, the results show that a considerable share of respondents support both positions, indicating that many people do not consider the two statements mutually exclusive.

Decisions on science and research should be made against the background of whether they contribute to solving societal problems.



Scientists should be allowed to decide for themselves what they are researching.



- completely agree
- somewhat agree
- undecided
- somewhat disagree
- completely disagree
- don't know, missing answer

Number of respondents: 1,017; Figures are in per cent. Numbers may not add up to 100 per cent due to rounding.

Data on the survey design of the science barometer 2019

Representative population survey

Population German-speaking residential population of the Federal Republic of Germany in private households from the age of 14 years and over

Number of respondents 1.017 respondents

Type and period of the survey The interviews were conducted as telephone interviews (dual frame of landlines/mobile phones, 80:20) from 3 to 10 September 2019. The interviews were part of an omnibus survey carried out centrally by Kantar Emnid.

Sampling The sampling was carried out according to ADM – i.e. using a telephone sample which was created by an initiative of the *Arbeitskreis Deutscher Marktforschungsinstitute (ADM)* using the *Gabler-Häder-Verfahren* and which also contains unlisted telephone numbers. Within the selected households from the landline sample, the target person was selected randomly. For the sample of mobile phones, no systematic selection of the target person took place since mobile phones are almost exclusively used by only one person.

Implementation The interviews were computer-assisted telephone interviews (CATI). The general working instructions, used by all interviewers at Kantar Emnid, were applied in order to conduct all the interviews consistently.

Weighting and representativeness The weighting took place in several steps: Firstly, a design weighting compensated for the different selection probabilities of the target persons caused by the numbers of landlines and mobile phone numbers as well as household sizes. Subsequently, the two samples of landlines and mobile phones were merged and weighted based on the characteristics of federal state, size of location, gender, age, occupation, formal education and household size. The weighting ensures that the structure of the sample on which the results are based matches the structure of the population. Therefore, the results of the survey are representative and can be generalised for the population within statistical margins of error. For this survey, the margin of error ranges from ± 1.4 (for a share of five per cent) to ± 3.1 (for a share of 50 per cent).

Documentation The original text of the questionnaire as well as results tables are available online via the following link:
www.sciencebarometer.com

Imprint

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