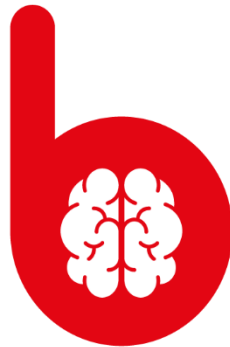


universcience presents  
**THE CRITICAL  
THINKING  
BAROMETER**



1<sup>st</sup> edition  
available now at  
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In partnership with  
**franceinfo:**  
**LA CROIX**

## Universcience unveils its new Critical Thinking Barometer

In an era characterised by information overload and misinformation – with fake news, conspiracy theories and false scientific and medical information abounding, not to mention the propensity of the internet to distort information – **where do French people stand on the issue of critical thinking**, namely the ability to filter and evaluate the reliability of the information available to them, form their own opinions, question their convictions and ultimately exercise independent thought? **This is the question that the Critical Thinking Barometer, which Universcience is launching in partnership with France Info and La Croix, has been created to answer.**

For this first edition of the Critical Thinking Barometer, 3,218 people were surveyed by research agency Gece between 17 and 28 February 2022, using the Quota sampling method. The questions put to them were based around three themes: firstly, we look at **how the respondents relate to science** (based on the assumption that scientific reasoning and the methods integral to the field of science are a prerequisite for critical thinking); secondly, we look into **their sources of information**, with regards to scientific subjects in particular, to give us a sense of how they develop their understanding of current events; and finally, we study **their attitudes towards debating** and alternative perspectives within the context of logic and reasoning.

### KEY LEARNINGS FROM THE RESEARCH

- 1 French people are eager to learn about science through visual means, but there is some inequality when it comes to socio-economic background and gender

Although only 22% of those surveyed cited “science” as one of their main areas of interest, this contrasts with their ability to recollect what they learned at school (62% have a good memory of their Earth and Life Sciences lessons, 50% can recall their maths lessons well, but only 40% can remember their physics and chemistry lessons). **The research shows that in France today, scientific culture is thriving:** 81% of those surveyed watch documentaries about science, 67% visit websites focusing on scientific subjects and 64% watch videos about science on YouTube – **which indicates the importance of visuals** when it comes to how people are choosing to connect with science.

**59% read scientific literature or articles and 54% visit exhibitions** and science and technology museums. 61% actively engage with science on a regular basis, primarily through visiting exhibitions (53%) but also by reproducing scientific experiments at home (31%) or taking part in collaborative science experiments (27%). **In addition, almost all of those surveyed (93%) had previously visited a place of scientific interest** (a zoo, aquarium, natural history museum, planetarium or science centre of some kind, for instance).

## What do they think about science?

The vast majority see it as enabling the **development of new technologies that are useful to all (88%), consider it to be something that helps us to better understand the world (87%) and think that it helps improve our quality of life (85%)**. On the other hand, for 53% of those surveyed, scientific theories are merely hypotheses that exist alongside many others. Furthermore, while 43% think that the scientific community validate their findings in an independent and unbiased way, 40% think the opposite.

**When it comes to how the respondents relate to science, five categories can be clearly identified:**

- **science “enthusiasts”** (23.5%; primarily men, aged under 40, from upper and middle socio-economic groups, school pupils and students, with secondary school qualifications + 2 years of higher education or more),
- **those who are “interested” in science** (25%; with secondary school qualifications + 5 years of higher education or more, describe themselves as interested in science);
- **those who are “moderately interested”** (26%; women, aged 60 and over, retired, who have not obtained secondary school qualifications and have neither a background nor an interest in science or the arts),
- **those who are “without access”** to scientific education or places of scientific interest because of where they live or due to socio-economic factors (15%; women, aged 40-49 and 70 and over, retired, who have not obtained secondary school qualifications and have neither a background nor an interest in science or the arts)
- **and finally, “sceptics”** (10.5%; women, aged 50-59, from lower socio-economic groups, who have not obtained secondary school qualifications and have neither a background nor an interest in science or the arts).

## 2 TV and the Internet are preferred as a means of staying informed, and doctors and scientists are deemed trustworthy

**How do the respondents stay up-to-date with current events?**

We can identify two distinct pillars emerging from the research, with 68% preferring **TV** (the primary source of information for 29% of those surveyed), and 73% choosing to stay informed via the **Internet** (search engines and news websites, excluding social media). Then comes friends and family (50%), the radio (46%), the print media and social media (40%). **When it comes to staying informed about science-related topics, there is a clear preference for traditional mainstream media:** TV and radio programmes (44%) and newspapers (43%) come out on top, significantly ahead of science websites (27%) and specialist publications (25%). On the other hand, the way respondents view the proliferation of available information sources is mixed, with 48% having a positive view, 31% a negative view, 8% both a positive and negative view, and 3% taking neither view.

**The research has also enabled us to identify 4 main types from among the respondents:**

- **43% prefer TV** (respondents aged 50 and over, retired, who have not obtained secondary school qualifications and have neither a background nor an interest in science or the arts),
- **26% are “flexible” users** who use all types of media (aged under 30, upper and middle socio-economic groups, with secondary school qualifications + 5 years of higher education or more, who consider themselves to be as interested in science as in the arts),
- **16% mainly use the Internet**, read regional daily newspapers and use TV and radio apps (aged 40-49, lower socio-economic groups)
- **and finally, 18.5% of people rely on social media and online news aggregator services** (aged under 40, middle and lower socio-economic groups, school pupils and students, with an interest in science).

**When asked what information sources they trust**, within the specific context of the coronavirus health crisis, it was **doctors** who came out on top, with 51% of those surveyed saying they trusted most doctors, but 38% “only trusting some of them”. **Scientists and researchers** follow a similar pattern (44% of respondents trust most of them, with 40% trusting some of them).

This distinction is even more pronounced when it comes to the respondents’ social and professional circles (20% total confidence, 54% “selective” confidence), science journalists (27% vs. 47%), journalists from the mainstream media (14/51), and politicians (8/36). Religious representatives (7/19) and influencers (4/17) are at the bottom of the list.

## 3 An appetite for debate and openness to others

**Is France open-minded?**

Those who participated in our survey responded positively to this question, with **86% considering themselves open to any and all new ideas, and 81% stating that they take as many opinions into account as possible on any given subject.**

While 51% prefer to discuss topics with people who think differently to them, 39% state the opposite. Although 50% seek out “many” different opinions before forming their ideas on a topic, 43% state the opposite.

We also see that these principles are frequently put into action, as 73% of respondents debate or discuss subjects relating to society or the sciences, either often or from time to time, primarily during conversations with friends (64%) or family meals (63%). Furthermore, 65% of respondents think that critical thinking skills and freedom of expression are mutually supportive.

#### How do you define critical thinking?

The ability to change your mind (52%), the capacity for logical and rational reasoning (51%) and the ability to discuss topics with people who hold opinions that are different to your own (50%) are the top definitions selected by respondents. Conversely, questioning what the authorities say (27%), taking a routinely sceptical approach (24%) and not trusting your own intuition (21%) are at the bottom of the list.

*The complete findings can be found in the accompanying presentation.*

## A SCIENTIFIC COMMITTEE OF EXCELLENCE

What makes this barometer all the more unique is the scientific committee supporting the initiative, which brings together the expertise of **Elena Pasquelli**, Research and Evaluation Manager at Fondation La main à la pâte (a foundation providing school teachers with resources for teaching science and technology subjects), Associate at the Jean-Nicod Institute, member of the Scientific Council for National Education; **Magda Tomasini**, Director of the National Institute for Demographic Studies (INED); and **Michel Wieviorka**, Research Director at EHESS (the School of Advanced Studies in Social Sciences).



### *Le printemps de l'esprit critique* from 21 March to 3 April 2022

In addition to the Barometer of Critical Thinking, Universcience is continuing and strengthening its efforts to raise awareness around critical thinking, at the Cité des sciences et de l'industrie and at Les Étincelles du Palais de la découverte, with programmes aimed at the general public, schools and industry.

*Le printemps de l'esprit critique* consists of a series of workshops, events and seminars specially developed for pupils at primary and secondary school, which takes place primarily at the Library of Science and Industry. *Part of Press and Media Week at School, in partnership with Le CLEMI.*

*Further details can be found in the Universcience springs into action to promote critical thinking press kit.*

#### To find out more, please click on the links below:

- [The Critical Thinking Barometer](#)
- [Le printemps de l'esprit critique at the Cité des sciences et de l'industrie](#)
- [Le printemps de l'esprit critique at Les Étincelles du Palais de la découverte](#)



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