

National Science Foundation 2016 Science and Technology Indicators Report

Chapter 7: Science and Technology: Public Attitudes and Understanding

Highlights

Interest, Information Sources, and Involvement

Four out of 10 Americans say they are “very interested” in new scientific discoveries, and 6 out of 10 say they are “very interested” in new medical discoveries.

- Other science-related issues also interest many Americans; these include environmental pollution and use of new inventions and technologies.
- Interest in environmental pollution has declined slowly since 1990, when more than 6 in 10 Americans said they were very interested in the topic. Only about 4 in 10 Americans gave this response in 2014.

The Internet remains Americans’ primary source for science news and information seeking.

- Nearly half of Americans cited the Internet as their primary source of science and technology (S&T) information in 2014 compared with about one-tenth of Americans in 2001. Television and newspapers continue to be used less often as sources of science news and information.
- For those who say they use the Internet as their primary source of information, about 4 in 10 say they use a search engine (e.g., Google) to find science information. About 2 in 10 say they use online newspapers.

Public Knowledge about S&T

Americans correctly answered an average of 5.8 out of 9 factual knowledge questions in 2014, a score similar to those in recent years but high in terms of the overall historical trend.

- Americans with more formal education tend to provide a greater number of correct answers on science knowledge questions.
- Men tend to do better on questions focused on the physical sciences, whereas women do slightly better on questions focused on the biological sciences, for the specific questions asked.
- An experiment examined the standard question used to measure knowledge about evolution. This research found that a wording change substantially increased the percentage of correct responses and this change also improved correlation with knowledge of evolution and science more generally. Levels of factual scientific knowledge in the United States are comparable with those in Europe and are generally higher than levels in countries in other parts of the world.

Two-thirds of Americans could correctly answer two multiple-choice questions dealing with probability in the context of medical treatment, and about half could describe the best way to conduct a drug trial.

- The percentage of Americans providing correct responses to these questions is as high as it has ever been; nearly half of Americans correctly answered all of these scientific reasoning questions.

Public Attitudes about S&T in General

Americans perceive far more benefits than harms from science and want governments to fund research.

- About 7 in 10 Americans say that they believe the benefits from science are greater than the harms, and almost 9 in 10 agree that S&T will create more opportunities for future generations.
- However, Americans increasingly worry that science is making life “change too fast.” About half of Americans expressed this view in 2014, up from about one-third in 2004.
- About 4 in 10 Americans say we are spending “too little” to “support scientific research.” This number has stayed relatively steady for many years, although relatively few Americans (1 in 10) now say we spend “too much.”

Americans are more likely to have “a great deal of confidence” in leaders of the scientific community than in leaders of any group except the military.

- About 4 in 10 Americans express high levels of confidence in the scientific community. This ranks second only to the military, for which half of Americans say they have “a great deal of confidence.”
- Although the medical community remains one of the most respected groups in America, the percentage of Americans who express “a great deal of confidence” in the medical community has decreased since the 1970s and has tied with its previous low in 2002, with slightly fewer than 4 in 10 expressing high confidence.

Public Attitudes about Specific S&T-Related Issues

The wide range of survey data on Americans’ opinions on overall environmental protection yields conflicting findings.

- In 2015, about half of Americans said the environment should be made a priority over economic growth, up from about 3 in 10 in 2011. This level is still, however, below the nearly 6 in 10 who gave this response in 2001.
- Americans are, on average, less likely to choose the environment over the economy than residents of many other countries.
- About 4 in 10 Americans say they are “very interested” in environmental pollution news, down from about 6 in 10 in 1990.

- About 3 in 10 Americans say they worry “a great deal” about the quality of the environment, similar to the historic low in 2014.

Americans remain divided on the severity and nature of climate change.

- Slightly more than half of Americans say they worry about climate change, a percentage that is relatively low compared with surveys conducted since 1989. Fewer than 4 in 10 think it will pose a serious threat to their own way of life.
- Only about 6 in 10 Americans believe there is scientific consensus on the fact that climate change is occurring.

When given the choice, a majority of Americans say they would prefer to focus on non-fossil fuel alternatives.

- About 6 in 10 consumers say they would choose to prioritize conservation over fossil fuel development; the same proportion would focus on alternative energy over fossil fuel development.
- The vast majority of Americans (about 8 in 10) say they would like to see more emphasis on both fuel efficiency standards for vehicles and renewable energy development.
- Different surveys about how Americans feel about nuclear energy suggest that support may be as low as about 4 in 10 Americans or as high as about 6 in 10 Americans.

A minority of Americans think genetically engineered (GE) foods are safe.

- Three in 10 Americans see GE foods as “safe to eat,” and a similar proportion believes that scientists understand the risks of these foods.

Most Americans view using stem cells from human embryos in medical research as “morally acceptable.”

- Gallup research shows that more than 6 in 10 Americans see using stem cells from human embryos as acceptable. This percentage reached a historic high in 2014.

Most Americans think other countries are doing a better job on science, technology, engineering, and mathematics (STEM) education.

- In 2014, fewer than 1 in 10 Americans think that American kindergarten through grade 12 STEM education is among the best in the world.

(from: <https://www.nsf.gov/statistics/2016/nsb20161/#/report/chapter-7/highlights>)