

# Study: Religion colors Americans' views of nanotechnology

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Is nanotechnology morally acceptable? For a significant percentage of Americans, the answer is no, according to a recent survey of Americans' attitudes about the science of the very small.

Addressing scientists here today at the annual meeting of the American Association for the Advancement of Science, Dietram Scheufele, a University of Wisconsin-Madison professor of life sciences communication, presented new survey results that show religion exerts far more influence on public views of technology in the United States than in Europe.

"Our data show a much lower percentage of people who agree that nanotechnology is morally acceptable in the U.S. than in Europe," says Scheufele, an expert on public opinion and science and technology.

Nanotechnology is a branch of science and engineering devoted to the design and production of materials, structures, devices and circuits at the smallest achievable scale, typically in the realm of individual atoms and molecules. The ability to engineer matter at that scale has the potential to produce a vast array of new technologies that could influence everything from computers to medicine. Already, dozens of products containing nanoscale materials or devices are on the market.

In a sample of 1,015 adult Americans, only 29.5 percent of respondents agreed that nanotechnology was morally acceptable. In European surveys that posed identical questions about nanotechnology to people in the

United Kingdom and continental Europe, significantly higher percentages of people accepted the moral validity of the technology. In the United Kingdom, 54.1 percent found nanotechnology to be morally acceptable. In Germany, 62.7 percent had no moral qualms about nanotechnology, and in France 72.1 percent of survey respondents saw no problems with the technology.

"There seem to be distinct differences between the United States and countries that are key players in nanotech in Europe, in terms of attitudes toward nanotechnology," says Scheufele.

Why the big difference?

The answer, Scheufele believes, is religion: "The United States is a country where religion plays an important role in peoples' lives. The importance of religion in these different countries that shows up in data set after data set parallels exactly the differences we're seeing in terms of moral views. European countries have a much more secular perspective."

The catch for Americans with strong religious convictions, Scheufele believes, is that nanotechnology, biotechnology and stem cell research are lumped together as means to enhance human qualities. In short, researchers are viewed as "playing God" when they create materials that do not occur in nature, especially where nanotechnology and biotechnology intertwine, says Scheufele.

He conducted the U.S. survey with Arizona State University (ASU) colleague Elizabeth Corley under the auspices of the National Science Foundation-funded Center for Nanotechnology in Society at ASU.

The moral qualms people of faith express about nanotechnology is not a question of ignorance of the technology, says Scheufele, explaining that survey respondents are well-informed about nanotechnology and its

potential benefits.

"They still oppose it," he says. "They are rejecting it based on religious beliefs. The issue isn't about informing these people. They are informed."

The new study has critical implications for how experts explain the technology and its applications, Scheufele says. It means the scientific community needs to do a far better job of placing the technology in context and in understanding the attitudes of the American public.

The survey was undertaken in the summer of 2007 by the UW-Madison Survey Center and has a margin of error of plus or minus 3 percent.

Source: University of Wisconsin-Madison

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