Beyond partisanship: Engaging in debates about science and society

February 18 2014

New research suggests scientific institutions and organizations can improve their communication and outreach with the public by addressing people's strongly held beliefs about science and its role in society. These beliefs play a key role in shaping people's opinions, and ultimately, their support for scientific advances, according to the study "Understanding Public Opinion in Debates Over Biomedical Research: Looking Beyond Partisanship to Focus on Beliefs about Science and Society," by American University professor Matthew C. Nisbet, Ph.D., and Ezra Markowitz, Ph.D., a post-doctoral fellow at Columbia University. The study was published today in the interdisciplinary journal *PLOS ONE*.

"What divides the American public in their views about scientific advances? The easy answer, especially over the last decade, is political partisanship and ideology. The commonly held view is that Conservatives and Republicans are anti-science, and Liberals and Democrats are pro-science," said Nisbet, a social scientist who studies the impact of strategic communication in policy debates over science and the environment. "Yet if we continue to think about public opinion in this narrow way, as policy conflicts emerge, mistakes will be made and opportunities will be missed to effectively engage the public on the questions and concerns that matter to them."

The two researchers analyzed nationally representative surveys collected between 2002 and 2010 with the goal of better understanding how the U.S. public came to form opinions in the debate over human embryonic stem cell research. Intense campaigning on stem cell research across

elections and states, as well as the 2004 election between President George W. Bush and then-Senator John Kerry, provided a valuable case study to compare the factors that drive public opinion.

To be sure, political party affiliation, ideology, and religious beliefs played a role – but they weren't the strongest influences on why people supported stem cell research. The primary influence, Nisbet and Markowitz determined, was that of differences in people's perceptions about the social implications of science. Instead of viewing people exclusively in terms of their politics or faith, scientists can benefit from understanding the public through four distinct groups that are not easily defined by traditional labels. In their analysis, Nisbet and Markowitz classified the groups as follows:

"Scientific optimists" comprise a third of the public, believe strongly in the link between science and social progress, and are likely to support most scientific advances. Optimists are on average highly educated, financially well off, and disproportionately white. They also tend to split almost evenly by partisan identity, although they trend slightly more Democrat.

"Scientific pessimists" comprise about a quarter of the public, have strong reservations about the moral boundaries that might be crossed by scientists, and believe science may lead to new problems. They are the most likely to oppose advances in biomedical research and related fields. This group on average scores much lower in terms of educational attainment and income and trends more female and minority in background. Pessimists split evenly relative to partisan identity.

The "Conflicted" comprise about a quarter of the public and view science in both optimistic and pessimistic terms. Though they are socially similar to Scientific Pessimists in their background, they tend to be older than members of other segments. They appear open to

accepting the arguments of scientists and advocates who emphasize the benefits of research.

Finally, the "Disengaged" comprise about 15 percent of the public, appear to lack strong beliefs about how science might impact society, and as a consequence are likely to be the most susceptible to shifts in opinion driven by high profile news coverage or political messaging.

Over the coming decade, developments in the life sciences such as in-vitro fertilization, the demand for human tissues by scientists for research, or the engineering of new life forms, will raise ethical and moral issues that transcend partisan politics. People's concerns are likely to center on several recurring themes, Nisbet says, including whether scientific breakthroughs promote or undermine social progress, whether research gets pursued too cautiously or too quickly, whether moral boundaries are crossed or respected, whether research is seen as serving public or private interests, and the process by which decisions are made.

"Our dysfunctional media system is not capable of adequately addressing these questions. On cable news or via social media almost every complex debate is re-defined in terms of partisan and ideological differences," Nisbet said. "We need to build a new civic infrastructure that enables public learning and input, and the place to start may be in the cities and states where research is taking place."

Nisbet's prior research examining public opinion about climate change and energy insecurity also revealed for science communicators that understanding the public in more precise ways than partisanship or ideology allowed for improved outreach. Other research by Nisbet has analyzed the role that journalists and their organizations play in engaging the public on complex policy problems.