Bridging the opinion gap

There is a wide opinion gap between scientists and the general public in the United States when it comes to their attitudes about the state of science and science-related policy. According to survey results released this week by the Pew Research Center, in collaboration with the American Association for the Advancement of Science (AAAS), when asked whether U.S. scientific achievements are either the best or among the world's best, only 54% of the public said "yes," compared to 92% of the scientists. Such disparity is alarming because it ultimately affects both science policy and scientific progress. How can we bridge this gap? Forget the staged "town hall" meetings—studies show that they are not very effective. What does work is respectful bidirectional communication, where scientists truly listen, as well as speak, to the public.

What accounts for this large opinion gap? Hot topics such as the safety of eating genetically modified (GM) foods, the importance of using animals in scientific research, the reality of human-caused climate change, the safety of vaccinations, and human evolution are among the issues that cause substantial disquiet among the public. Most scientists (88%) said that eating GM foods is generally safe, for example, whereas a mere 37% of the public agreed. Similarly, the 2014 survey reports that the public's stance on climate change has become "increasingly contentious," as a greater percentage of the public (25% in 2014 versus 11% in 2009) believes that there is no solid evidence that Earth is getting warmer—a result that is inconsistent with the broad scientific consensus.

These findings should come as no real surprise, given increasing public attention to relatively rare events that, even though infrequent, undermine the public's trust of science, such as conflicts of interest, the failure to replicate certain results, or "silly-sounding" grant titles that imply wasteful spending. Among scientists, life is seen as being much more difficult than it appeared to be 5 years ago, when Pew Research conducted a similar survey. Only 52% of scientists say this is "a good time for science," down from 76% in 2009. This discouragement is not surprising either, given the long-standing threats to research and development funding and the resultant very low success rates for grant proposals. But complaining about these difficulties does nothing to improve respect or support for science among policy-makers or the public.

Speaking up for the importance of science to society is our only hope, and scientists must not shy away from engaging with the public, even on the most polarizing science-based topics. Scientists need to speak clearly with journalists, who provide a great vehicle for translating the nature and implications of their work. Scientists should also meet with members of the public and discuss what makes each side uncomfortable. In these situations, scientists must respond forthrightly to public concerns. In other words, there needs to be a conversation, not a lecture.

The public's perceptions of scientists' expertise and trustworthiness are very important, but they are not enough. Acceptance of scientific facts is not based solely on comprehension levels. It can be compromised whenever information confronts people's personal, religious, or political views, and whenever scientific facts provoke fear or make people feel that they have no control over a situation. The only recourse is to have genuine, respectful dialogues with people. Good venues are community clubs, science museums, science fairs, and religious institutions. Working with small groups is more effective than working with large groups. Fortunately, there is a growing science base to help guide more effective public engagement of this kind.

The opinion gap must not be allowed to swell into an unbridgeable chasm. There is ample opportunity to do something about the situation now. Hopefully, a survey 5 years from now will bear better news.

— Alan I. Leshner

Alan I. Leshner is the Chief Executive Officer of AAAS and Executive Publisher of Science.
Editor's Summary

This copy is for your personal, non-commercial use only.

**Article Tools**  Visit the online version of this article to access the personalization and article tools:  http://science.sciencemag.org/content/347/6221/459

**Permissions**  Obtain information about reproducing this article:  http://www.sciencemag.org/about/permissions.dtl