

Small differences in how a technology is defined can make a big difference in how the public feels about it

11 March 2013, by Bob Mitchell

(Phys.org) —Even small tweaks in how scientists describe scientific breakthroughs can significantly change how the public perceives their work, a new study indicates. Researchers found that showing individuals different definitions of nanotechnology led to differences in how strongly the subjects supported this emerging area of science and in their motivation to learn more about it.

Participants in the University of Wisconsin-Madison study were given one of three definitions, each of which framed [nanotechnology](#) differently. One definition highlighted nanotechnology's novel applications, another focused on its risks and benefits, and a third touched on both applications and risks and benefits. The researchers then assessed the participants' level of support for nanotechnology and their level of engagement—their interest in learning more.

The researchers found that if the definition highlighted nanotechnology's useful applications, readers were more likely to support nanotechnology but weren't motivated to gather more information. If the definition focused on risks and benefits, readers were more interested in learning more but less likely to support nanotechnology.

"This has important implications for those interested in engaging members of the public in scientific issues," says [researcher](#) Ashley Anderson, now a research fellow in the Center for [Climate Change](#) Communication at George Mason University.

It creates a paradox for scientists who want to encourage both support and increased interest in their work, notes Dietram Scheufele, UW-Madison professor of life sciences communication.

"Explaining nanotechnology in terms of

applications promotes acceptance, but motivation to learn more is triggered by mentioning potential risks."

Whether participants had a background in science changed the outcome to an extent, says Dominique Brossard, UW-Madison professor of life sciences communication.

"Changing the definition did not change the attitudes toward the technology for those who had a college degree in science," Brossard says. "It did, however, make a difference among those who have a college degree in a non-science-related field and those who do not have a college degree. And different definitions impacted these groups' [motivation](#) to learn more in different ways."

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Provided by University of Wisconsin-Madison

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