

Nano TV Dinner

Getting Results with Museum-Produced Nanotechnology Segments on the Evening News An Experimental Study

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Primary Goal:

To measure the impact of nanotechnology news segments on New England Cable News TV viewers.

Motivation:

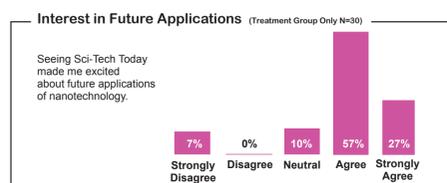
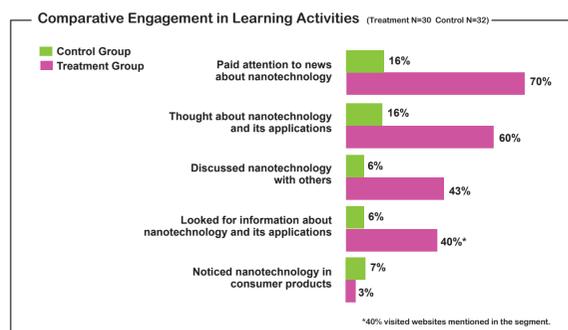
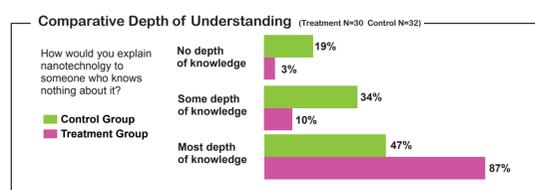
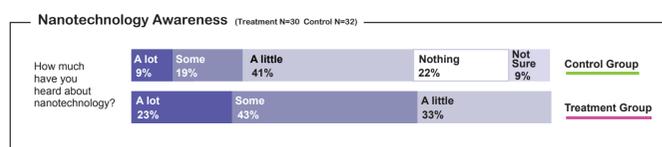
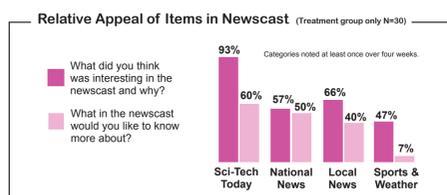
A recent national survey reveals that three-quarters of the American public have little to no awareness of nanotechnology.ⁱ Professionals in the field agree that now is the time to begin to work toward engaging and educating the public about nanotechnology, while the field is still in its developmental stage.ⁱⁱ Much of the effort to reach the general public with the topic of nanotechnology has focused on exhibits and programs in museums as well as direct civic engagement techniques.ⁱⁱⁱ However, most Americans report they receive most of their science news and information from television,^{iv} and the Pew Project for Excellence in Journalism finds that local television news is the nation's most popular news source.^v Thus, those who wish to address nano literacy in a substantive way must seriously consider local television as an outreach mechanism. Yet many local and national television news producers have eliminated or cut their science staff,^{vi} making it more difficult to integrate current science into viewer's news diets. This experiment was set up to determine whether well-produced nanotechnology news segments airing on New England Cable News could attract and engage viewers and increase their awareness and knowledge of nanotechnology. NECN is the nation's largest regional cable news network, reaching viewers in six New England States.

Method:

A naturalistic, post-only, double-blind experiment.

- Adult participants were stratified by gender and randomly assigned to a treatment group (T) and a control group (C) across 11 Massachusetts communities.
- Neither participants nor recruiters were aware that the study was focused on anything more particular than "a review of NECN newscasts," nor were they aware who was sponsoring the study.
- Each Wednesday for four consecutive weeks, the treatment group (30 adults) watched a half-hour of regional evening news containing a museum-produced Sci-Tech Today segment on a nanotechnology topic.
- Each Thursday for the same four consecutive weeks, the control group (32 adults) watched a half-hour of regional evening news that did not include a Sci-Tech segment.
- Immediately after viewing, each participant completed a time-stamped online survey. The first three short surveys collected demographic and newscast appeal data and did not alert participants as to the real goals of the study. The fourth and final survey addressed each research question.

Sample Data:



Sci-Tech Nanotechnology Segments Tested in the Study



Nanobama!
January 21, 2009 (Day after Inauguration)
University of Michigan researcher John Hart made tiny 3-D images of Barack Obama by growing millions of carbon nanotubes on etched metal chips. Hugely magnified, the images helped popularize the potential of nanotechnology and brought attention to the new administration's plans for funding basic science research.
www.mos.org/events_activities/vidcasts&d=3121



Man Drinks Water out of the Charles
February 4, 2009
Nanotechnology is helping to provide clean water for NASA astronauts, disaster relief teams, and field clinics. The CEO of the Vermont nanotech start-up company that makes the water purification device accepts a dare to drink water out of the Charles River and the Museum tests the device for a live audience.
www.mos.org/events_activities/vidcasts&d=3131



Making Solar Energy More Affordable
February 11, 2009
Light, flexible solar panels made with nanotechnology will soon bring down the cost of installing household solar energy systems, and new federal and state tax credits are providing additional incentive.
www.mos.org/events_activities/vidcasts&d=3144



Nano, Silver, and You
January 28, 2009 (Day of Mass DEP meeting on nanoparticle safety)
Nano-sized particles of silver are terrific at fighting bacteria and mold, and are being used both in hospital settings and for food storage. But they're also being incorporated into more casual types of consumer products, like children's toys and clothing. Could this lead to a harmful accumulation of nano silver in our wastewater treatment plants and in our rivers and streams?
www.mos.org/events_activities/vidcasts&d=3126

RESULTS:

A selection of statistically significant findings

- Sci-Tech Today viewers were significantly more likely to name the nanotechnology stories as interesting compared to a national news story, local news story or sports and weather. They were curious to learn more. They were very supportive of including science and technology news with other news.
- Sci-Tech Today viewers demonstrated significantly more knowledge about nanotechnology and its applications, deeper knowledge, and more confidence in their knowledge, as compared to the control group.
- Sci-Tech Today viewers were significantly more likely than non-viewers to report paying attention to news about nanotechnology as well as thinking about, discussing and looking for information about nanotechnology and its applications.
- Significantly more Sci-Tech Today viewers than non-viewers looked for newscast-related information online, with 40% of the treatment group visiting a nanotechnology-related website announced on-air.
- The treatment group rated nanotechnology as significantly more beneficial for the United States society as a whole; the two groups did not differ in their ratings of risk.

CONCLUSION:

Sci-Tech Today nanotechnology news segments were very successful in engaging, educating, and motivating adult viewers of a regional newscast to learn more about nanotechnology. These results are likely to generalize to similarly well-crafted nanotechnology news segments integrated into comparable TV newscasts.

Tools of the Trade

Sci-tech Today producers sought to maximize the engagement power of the stories by (1) picking newsworthy subjects relevant to viewers and highlighting their relevance in the story tease; (2) using props, models, demonstrations, connections to everyday experiences; (3) making animations to model what is occurring on the nanoscale; (4) using a second camera for close-ups so viewers could see effects being demonstrated; (5) avoiding scientific or technical jargon; (6) keeping a conversational tone with the news anchors.



References from Motivation section

- ⁱ Peter D. Hart Research Associates, Inc. (Sept 16, 2008). Awareness of and attitudes toward nanotechnology and synthetic biology: A report of findings. Available at <http://www.nanotechproject.org/publications/archives/synbio/>
- ⁱⁱ Subcommittee on Nanoscale Science, Engineering, and Technology Committee on Technology, National Science and Technology Council. (2007, December). The National Nanotechnology Initiative Strategic Plan. Available at <http://www.nano.gov/html/about/strategicplan.html>. Tourney, C. & Baird, D. (2008). Nanoliteracy: Nurturing understandings of nanotechnology and societal interactions with nanotech. In A. Sweeney & S. Seal (Eds.), Nanoscale Science and Engineering Education (pp. 577-589). Stevenson Ranch CA: American Scientific Publishers.
- ⁱⁱⁱ For examples, see www.isnanonworld.org/; www.toosmalltosee.org/; www.nisenet.org/catalog/; <http://www.mrsec.psu.edu/museum/tbird/>; www.sc.edu/ucdms/articles/2004-02/citizens_nanotech.html; www.sciencecafees.com/category/nanotechnology/
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- ^v Pew Project for Excellence in Journalism. (2009) The state of the news media: An annual report on American journalism. Topline report. www.stateofthenewsmedia.org/2009/chapter%20pdfs/Topline%202008%20data.pdf
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