

DREAMING OF A NANOTECH CHRISTMAS



Project on
Emerging Nanotechnologies
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What Drives Public Acceptance of Nanotechnology?

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(With Eden B. King, Juan Madera, and Stacey Turner)

Nanotechnology Facts

- Nanotechnology is the understanding and control of matter at dimensions of roughly 1 to 100 nanometers, where unique phenomena enable novel applications. (NNI web site).
- Over 320 commercial products currently on the market (many early advances in materials and cosmetics).
- Products were worth over \$32 billion in 2005.

Unique Features of This Article

- By focusing upon consumer perceptions of commercial products containing nanotechnology, this study represents a new direction in nanotechnology research.
- This is the largest empirical study of its kind: Three national surveys:
 - National web survey: 4,543 respondents.
 - Random digit telephone dialing survey: 503 respondents (nano versus other technologies).
 - Random digit telephone dialing survey: 501 respondents (willingness to use products).

Unique Features of This Article (continued)

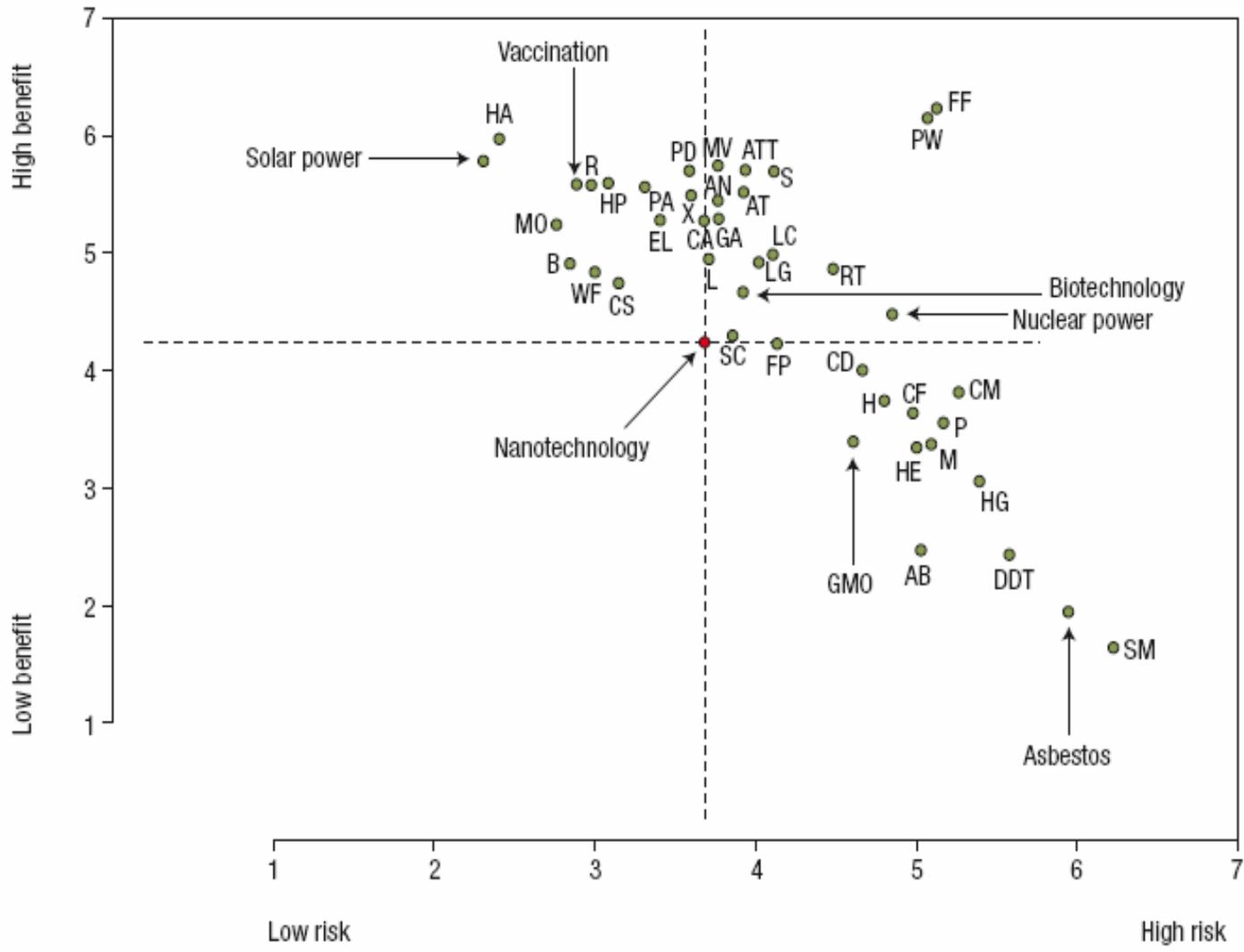
- Unlike previous research that focused on “nanotechnology” in general, or “nanotechnology research,” we studied public acceptance of (i.e., willingness to use) specific nanotechnology-containing products with which consumer could plausibly come into contact:
 - Drug
 - Skin lotion
 - Automobile tires
 - Refrigerator containing new gas coolant.

Unique Features of This Article (continued)

- Our research design enabled us to experimentally manipulate factors posited to influence acceptance.
 - Risks: Health and environmental.
 - Benefits: Health and environmental.
- We eliminated, via statistical control, the effect of differences among survey respondents concerning their personal tastes regarding risks and benefits of the products.

What Do We Know Now That We Did Not Know Prior to This Article? Part One

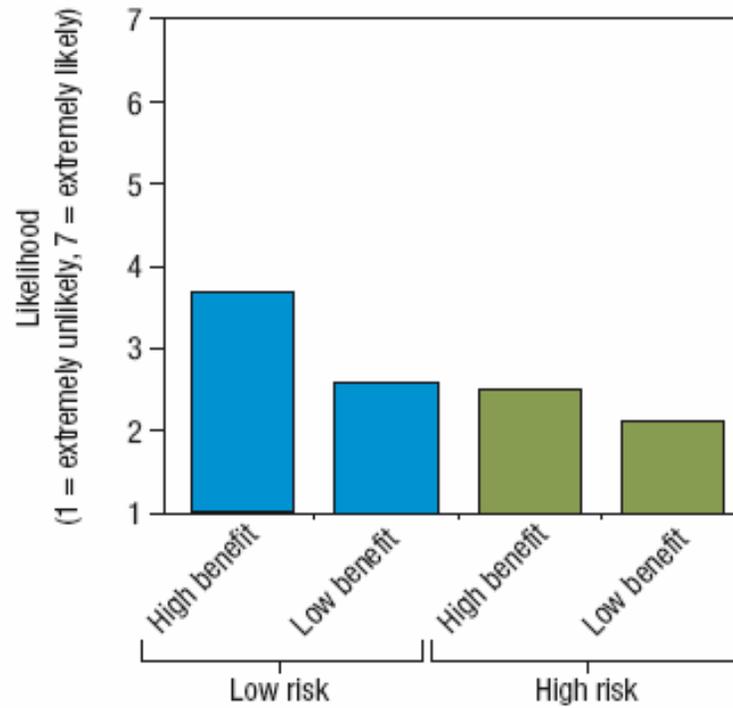
- When comparing the societal risks and benefits of nanotechnology to those of other technologies, the American public sees nanotechnology in relatively neutral terms.
- Implication: This relative neutrality about nanotechnology suggests that we have a window of opportunity for educating the public about risks and benefits.



What Do We Know Now That We Did Not Know Prior to This Article?

Part Two

- We call into question an assumption by many that the public thinks about nanotechnology applications predominately in terms of possible risks.
- Rather, the American public engages in a complex decision calculus that involves a trade-off of risk and benefits. When the benefits are low, consumers are more concerned about risks than when benefits are high (and vice versa).
- Implication: Future acceptance of nanotechnology applications will be based on both benefits and risks, not risks alone.



Policy and Educational Implications...

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