Communication Risk to the Media and the Public - White Paper Experience

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THE WHITE PAPER


  - Power Points.
  - Streams and Downloads.
Research
- Delphi questionnaire (Jan-Mar 2009).
- Public Service and Policy Research (IPSPR) w USouth Carolina (mirror surveys).
- Data analysis w UWisc.
- Civic Engagement exercises (assessment) w USC.
- Focus Group. (nanofood) w UMinn.

Supplement
- History with NSF.
- Summer 2008 (144 pp.)
- Train-the-Trainer (Scheufele, Wisc.)
1. STOP TEACHING SCIENCE


2. Heuristics and biases (the 3-4 As).
   a. Affect.
   b. Anchoring or adjustment.
   c. Availability.

3. Popular culture is not affecting perception significantly.

4. Risk has a negative valence. Boomerang effects.
2. SEE THE BIG PICTURE

1. Primacy and recency effects. Low levels of recall and retention.

2. Central and peripheral routes (Petty & Cacioppo) not two separate routes.

3. Tell stories. Narratology is the game (link to affect heuristic).

4. Risk fatigue is real. Findings from health communication (Surrey project).
3. USE MULTIPLE MEDIA.

1. Data indicates demographics favor net-newsers in the USA (Pew data).
2. Design web resources as digital media NOT as text.
3. Net resources *amplify* risk messages though they could also attenuate them.
4. Staying on course with the evolving media: Social networking services (SNS), Twitter (micro-blogging), sliver TV, Second Life....
TV and Internet News Consumption

Pew Research Center for the People and the Press, August 2008

% consumption from each medium

Age Range

18-24 25-29 30-34 35-49 50-64 65+

4. STAKEHOLDERS ARE NOT EQUAL.

1. Public is generally disinterested (70%).
2. Public is overwhelmingly disinterested in science and technology policy (90%).
3. Prepare the public for a trigger event (contagion). Inoculate the public. Anchor a positive.
4. Engagement is not for everyone. Engagement exercises may not produce usable data.
PERCEIVED **RISKS** OF NANO:
AWARE VS. UNAWARE RESPONDENTS
HOW IMPORTANT IS AWARENESS?

- Loss of privacy
- Lead to arms race
- Loss of jobs
- Self-replicating robots
- May be used by terrorists
- New health problems
- More pollution

Hart 2007
PERCEIVED **BENEFITS** OF NANO: AWARE VS. UNAWARE RESPONDENTS
HOW IMPORTANT IS AWARENESS?

- Help clean up environment
- Better treatment of diseases
- Better national security and defense
- Improve human abilities
- Solve energy problems
- Revolutionize computer industry
- Lead to economic boom

Hart 2007
Deliberation resulted in participants’ reduced certainty about the benefits of “enhancing human capabilities. Pre-deliberation, 82% were at least somewhat certain the benefits would exceed the risks; post-deliberation the percentage of these respondents was reduced to 66%. Conversely, deliberation slightly strengthened participants’ discordant perception that most scientists were confident the benefits would exceed the risks (92% pre-deliberation and 96% post-deliberation).

10th Conference on Public Communication of Science and Technology, Malmo, Sweden, June 2008
Deliberation resulted in opposition to most kinds of hypothetical human enhancements that they were asked about. Participants were asked to report their support or opposition to five kinds of enhancements on a five-point scale. After deliberating, participants opposed all enhancements except for “implants to catch diseases before they became dangerous”. Before deliberating, participants also supported “bionic eyes” and were neutral about using nano-wires and implants to communicate with other people or computers.
1. Audiences process information through their own perceptual filters, i.e., audiences use religious beliefs, moral schema, etc.

2. Perceptions are just that – the role of opinion – attitude – perception – behavior. Linking perception to behavior is not causal.

3. Determine your audience (the 7-10 percent solution).
Figure 7-5
Attendance at informal science institutions, by institution type and education level: 2006


Science and Engineering Indicators 2008
1. Stop using intuition when designing a communication campaigns. Failures are expensive. (esp., trust and anchoring).

2. Use data.

3. Don’t over-extend your expertise. Risk on a dime is not wise. Use communication professionals.
SOME FINDINGS

1. Dosage/Exposure discounting effect. 96
2. Mini-Max or Maxi-Min Effects: Low probability – high consequence bias. 97
3. Rumor and fraud. 98
4. Risk profile shifts. 99
5. Power language. 100
6. Risk hormesis. 101
7. Risk homeostasis. 102
8. Risk fatigue. 103
Risk communication algorithm.

\[
\text{med}(E_{v1} + E_{v2} + \ldots E_{vn}) \text{ med}(P_1 + P_2 + \ldots P_n) \\
\text{Risk} \leftarrow \frac{\text{I}}{T}
\]

Ev = event, P = probability, I = information, and T = trust.

Risk communication model.
Risk Communication

**Speedway:** Paths or Channels that Messages take

**Cars:** the Message
Messages are driven by the sources of information.
(They also need to be "tuned up" by the crew on a regular basis)

**Drivers:** Sources of Information
- Car 1: Industry / Marketing / Insurance
- Car 2: Government reports
- Car 3: Academic Scientists
- Car 4: Non Governmental Organizations

**Announcers:** Traditional media

**Emergency Medical Technicians:** Crisis communicators.

**Grandstand Spectators:** the Public

**Infield Spectators:** Digital media
Fans in the field are close enough to comment on race outcomes, report own opinions

**Race Officials:** Policy Makers

**Advertisements on Cars:** Static
Does not contribute to the risk message

**Pile-up:** Amplification Scenario

**Crew Chief Boss:** Professional Risk Communicators
Tells both drivers and crew what to do. Also sees everything

**Crew:** Risk Communicators
The risk communicators do the mechanical work to make sure the message stays on track

**Bump-draft:** Priming
Just as cars try to bump each other off course, changing the frame of a message can alter its course
This work was supported in part by grants from the National Science Foundation, NSF 06-595, #0809470.
Nanotechnology Interdisciplinary Research Team (NIRT): Intuitive Toxicology and Public Engagement.

THANKS
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