

Is It Safe: Risk Perception and Communication

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Buhl and her team handle as many as 10,000 phone calls a year from citizens across the country. They offer objective information about risks associated with the use of pesticides. She avoids the use of the word “safe” as a description of low risk and focuses on behavior, exposure and hazard in characterizing the likelihood of harm. She made the following points:

1. The “deficit model” of science communication does not work. This model suggests that people lack information to make decisions and will respond appropriately if given the right information. Just pouring more information out of a bucket is a trap. It does not change behavior.

2. Safety is relative and depends on context. Behavior can change a “safe” product into a hazardous one if perception leads to increased exposure. Evaluating risk requires awareness of the context of use, the characteristics of exposed people or other factors in the environment.

3. The “risk equation” poses the level of risk as a result of hazard and exposure. Buhl cited the word of Paul Slovic, University of Oregon psychologist, who notes that perceptions of control and benefit affect peoples’ attitudes toward risky situations. One result of his work: unless there is a perceived benefit, no amount of risk is acceptable.

4. Neuroscience reveals a “sweet spot” for information retention by readers. Focusing too much on the threat or danger of an activity causes the brain to shut down and engages a “fight or flight” reaction. Focusing on the reward or benefit of an activity might produce a pleasure response and lead to risky behavior. On a scale of 0 to 100 — with danger at 0 and benefit at 100 — the “sweet spot” appears to be about 60. Factors that affect perception of risk include:

- Voluntary versus involuntary
- Fair distribution of risk versus unfair
- Natural risks versus man-made
- Familiar risks versus unfamiliar
- Risks to adults versus risks to children
- Trusted versus untrusted sources of information

5. Recommendations for framing risk in science stories:

- Focus on level of risk, not safe versus unsafe
- Provide information about hazards (application details, toxicity, exposure routes)
- Benefits of the risky activity
- Actions under a person’s control
- Sources of more information

6. Communicators can read *The Debunking Handbook* for summaries of research on response to misinformation. It is free to download at

<http://www.skepticalscience.com/Debunking-Handbook-now-freely-available-download.html>

In the Q&A, Joe Kays offered the suggestion that we ask sources to rank a given risk or hazard on a spectrum from low to high.