

# The Psychology of Risk: A Brief Overview

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# Some Questions Addressed by 60 Years of Research

1. How do people think about risk?
2. What factors determine the perception of risk and the acceptance of risk?
3. What role do emotion and reason play in risk perception and decision making?
4. What are some of the social, economic, and political implications of risk perceptions?

# Psychology of Risk: Key Points

- Risk and risk assessment are subjective and value laden
- Every hazard has unique qualities that drive perceptions and behavior
- Perceptions have impacts (ripple effects, stigma)
- Trust is critical: hard won, easily lost
- Most risk perception is determined by fast intuitive feelings (e.g., dread) based on experiential thinking, rather than by careful deliberation
- Understanding risk perception is critical for effective risk communication and risk management

# Acceptance of Risk Tends to be **Reduced** if:

- the hazard is new or unfamiliar
- exposure to the hazard is involuntary
- the risk is not under one's control
- the risk evokes feelings of dread
- the outcomes are catastrophic
- the benefits of an activity are not highly visible or not fairly or equitably distributed among those who bear the risks.



# Experts vs. Laypersons Perception of Risk

Rank Order		
1977 Laypersons		Experts
1	<b>Nuclear power</b>	20
2	Motor vehicles	1
3	Handguns	4
4	Smoking	2
↓		↓
17	Electric power (non-nuclear)	9
↓		↓
22	<b>X-rays</b>	7
↓		↓
30	Vaccinations	25

# X-Rays vs. Nuclear Power

- X-Rays are perceived as more beneficial
- X-Rays more familiar, less new
- Medical profession is more trusted

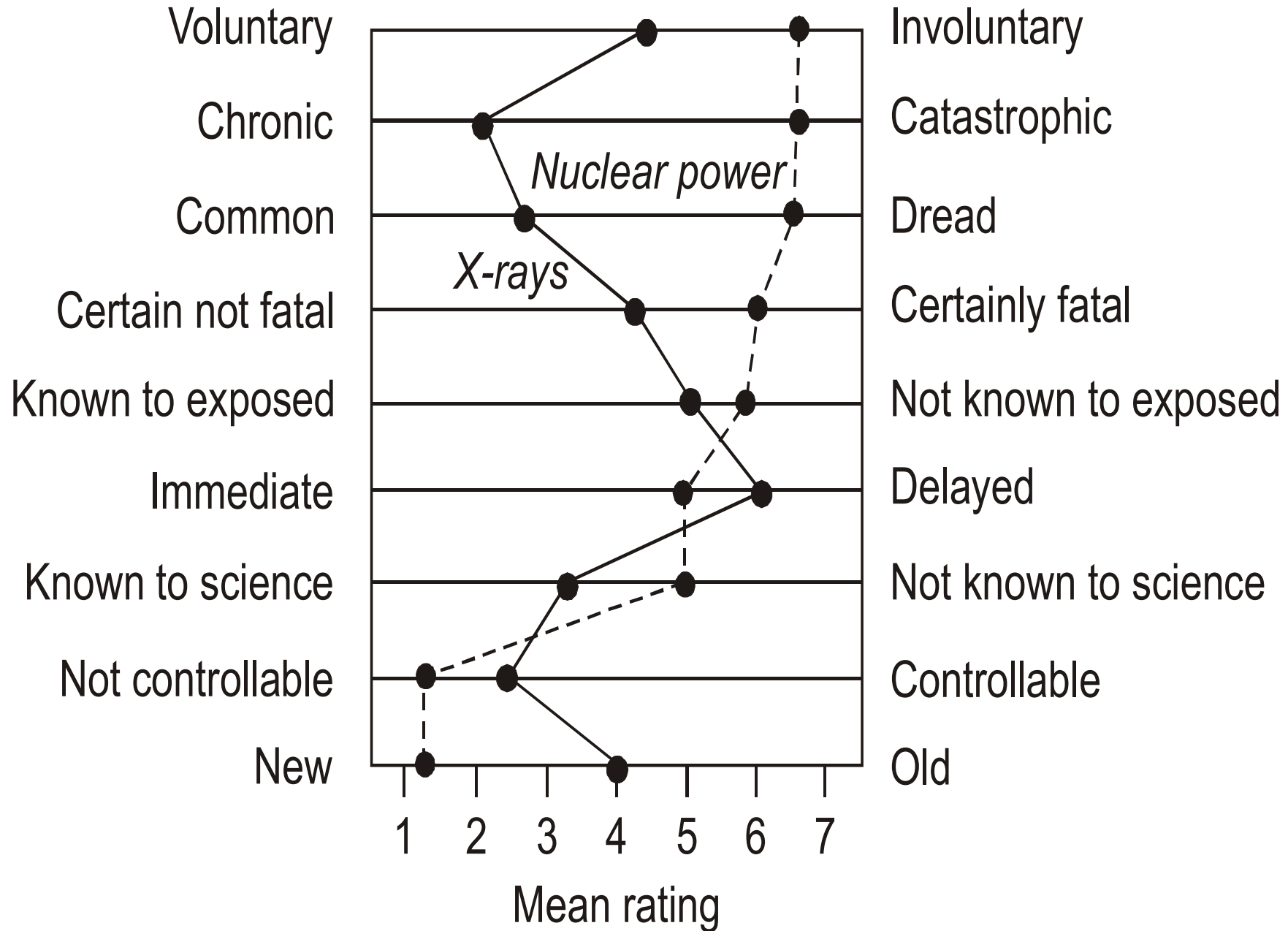
Benefit is the key

# Risk is Multidimensional

## Qualitative Risk Concerns

- Voluntary – Involuntary
- Chronic – Catastrophic
- Common – Dread
- Certainly not fatal – Certainly fatal
- Known to exposed – Not known to exposed
- Immediate – Delayed
- Known to science – Not known to science
- Not Controllable – Controllable
- New – Old
- Equitable – Not equitable





# Importance of Trust

“Acceptance of any risk is more dependent on public confidence in risk management than on quantitative estimates of risk”

C. Starr

# TRUST is the Key to Communication Problems

- If you have trust the path is smooth
- If you do not have trust, no form of phrasing or presentation is likely to be successful

# Trust: The Asymmetry Principle

- It is far easier to destroy trust than to create it!
- Negative (trust-destroying) events outweigh positive events

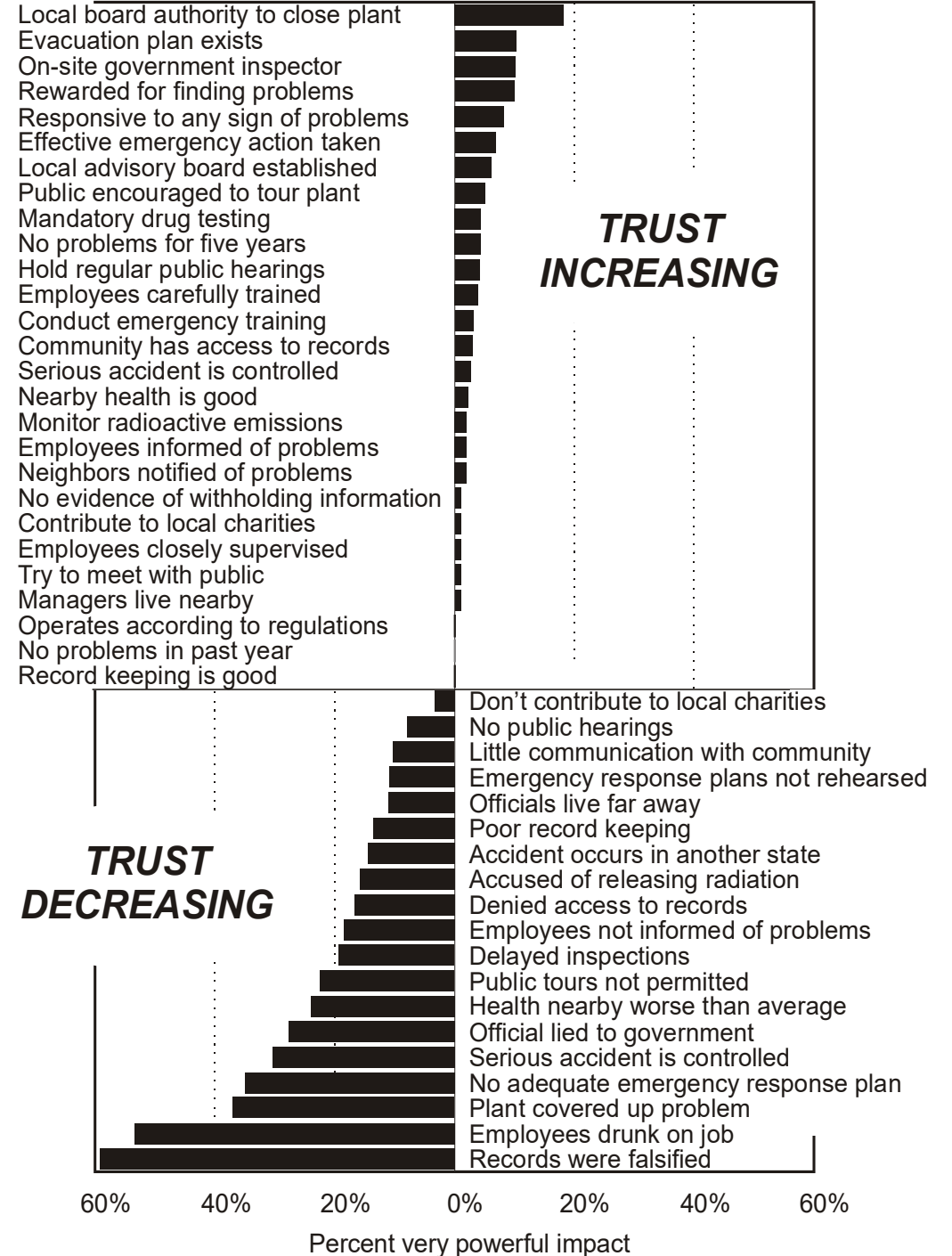
# An Experiment: Trust Increasing and Decreasing Events

An experiment asked people to rate the impact of hypothetical positive and negative news headlines on their trust in the managers of a nearby nuclear power plant

Trust-Increasing	Trust-Decreasing
Regular public meetings	No public hearings
Public tours encouraged	Public tours not permitted
Plant managers live nearby	Officials live far away
Health nearby better than the average	Health nearby is worse than the average

# Differential Impact of Trust-Increasing and Trust-Decreasing Events

Impact  
Good News



Impact  
Bad News

60% 40% 20% 0% 20% 40% 60%

Percent very powerful impact

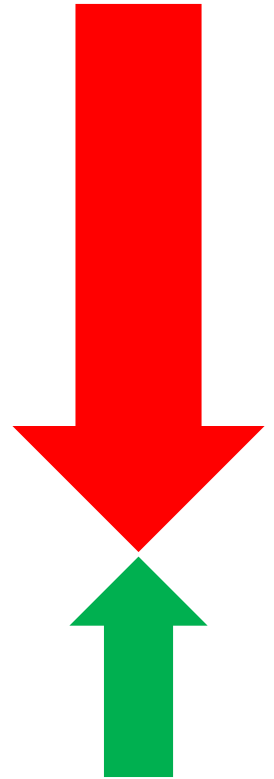
Trust Decreasing  
Headline

	Impact			
	Very small		Very powerful	
	1	2 . . . 6	7	
The county medical examiner reports that the health of people living near the plant is <i>worse</i> than the average for the region	3.0	8.0	26.0	24.0
The county medical examiner reports that the health of people living near the plant is <i>better</i> than the average for the region	21.5	14.0	16.1	2.2

Trust Increasing  
Headline

Worse health  
50% say  
powerful impact

Better health  
18% say  
powerful impact



# Another Lesson from Risk Perception Research

- People's political ideologies and worldviews strongly influence their perception and acceptance of risk.
- A possible topic for discussion.



**Thank You!**