

Risk Communication:

Core Slides

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Presentation Objective

To review:

the

research and practitioner literature

on

best practice

in

risk communication.

Definition

Risk: “a threat of loss, **real or perceived**, to that which we value.”

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Risk: “a threat of loss, **real or perceived**, to that which we value.”

Risk Communication: “the exchange of information about risks.”

Risk Communication: Definition

- Is an interactive process of **exchange** of information and opinion among individuals, groups, and institutions
- **Involves multiple messages** about the nature of risk
- **Involves messages not strictly about risk**, such as legal and institutional arrangements for risk management

“Improving Risk Communication,” **National Academy of Sciences, 1989**

Mental Noise

- **Threats** (risks) produce **stress**
- **Stress** produces **emotion**
(e.g., anxiety, worry, fear, anger, outrage)
- **Stress and emotion** produce **mental noise**,
which changes in the way people **process**
information

Risk Communication Goals

- **enhance knowledge and understanding**
- **build trust and credibility**
- **encourage appropriate attitudes, behaviors and beliefs**

Risk Communication Theories

- **Trust Determination Theory**
- **Mental Noise Theory**
- **Negative Dominance Theory**
- **Risk Perception/Outrage Theory**

Radiation and Risk Communication (40th Anniversary): Risk Perception Theory

“Perception equals reality.”

“That which is perceived as real is real in its consequences.”

“When people are stressed and upset, the gap between perceptions and reality often becomes wider.”

Risk Perception Theory

“When people are stressed and upset, the gap between perceptions and reality often becomes wider.”

Risk Perception (Fear) Factors

Lower Concern/Fear

1. Trustworthy sources
2. Large benefits
3. Under one's control
4. Voluntary
5. Fair
6. Natural origin
7. Children not victims

Higher Concern/Fear

- Untrustworthy sources
- Few or unclear benefits
- Controlled by others
- Involuntary
- Unfair
- Human origin
- Children as victims

Concerns – Risk Perception

Lower Perceived Risk

1. Trustworthy sources
2. Substantial benefits
3. Voluntary
4. Controllable
5. Fair/equitable
6. Natural origin
7. Familiar
8. Not dreaded
9. Certain
10. Children not as victims

Higher Perceived Risk

- Untrustworthy sources
- Few benefits
- Involuntary
- Not controllable
- Unfair/inequitable
- Human origin (man made)
- Unfamiliar/exotic
- Dreaded
- Uncertain
- Children as victims

Concerns – Risk Perception

Lower Perceived Risk

11. Not memorable
12. Moral/ethical
13. Clear non-verbal message
14. Responsive
15. Random/scattered
16. Little media attention
17. Victims statistical
18. Immediate effects
19. Effect reversible
20. Scientifically well understood

Higher Perceived Risk

- Memorable
- Immoral/unethical
- Mixed non-verbal message
- Unresponsive
- Catastrophic
- Much media attention
- Victims identifiable
- Delayed effects
- Effect irreversible
- Non scientifically well understood

Risk Perception (Fear) Factors

Lower Concern/Fear

1. **Trustworthy sources**
2. **Large benefits**
3. **Under one's control**

Higher Concern/Fear

- Untrustworthy sources**
Few or unclear benefits
Controlled by others

Risk Perception (Fear) Factors

- **Trust**
 - **Listening/Caring**
 - **Competence/Expertise**
 - **Honesty/Transparency**
- **Benefits/Fairness**
 - **Societal**
 - **Community**
 - **Personal**
- **Control/Voluntariness**
 - **Choice**
 - **Voice**
 - **Knowledge**

Concerns - Risk Perception

Amplification Weights

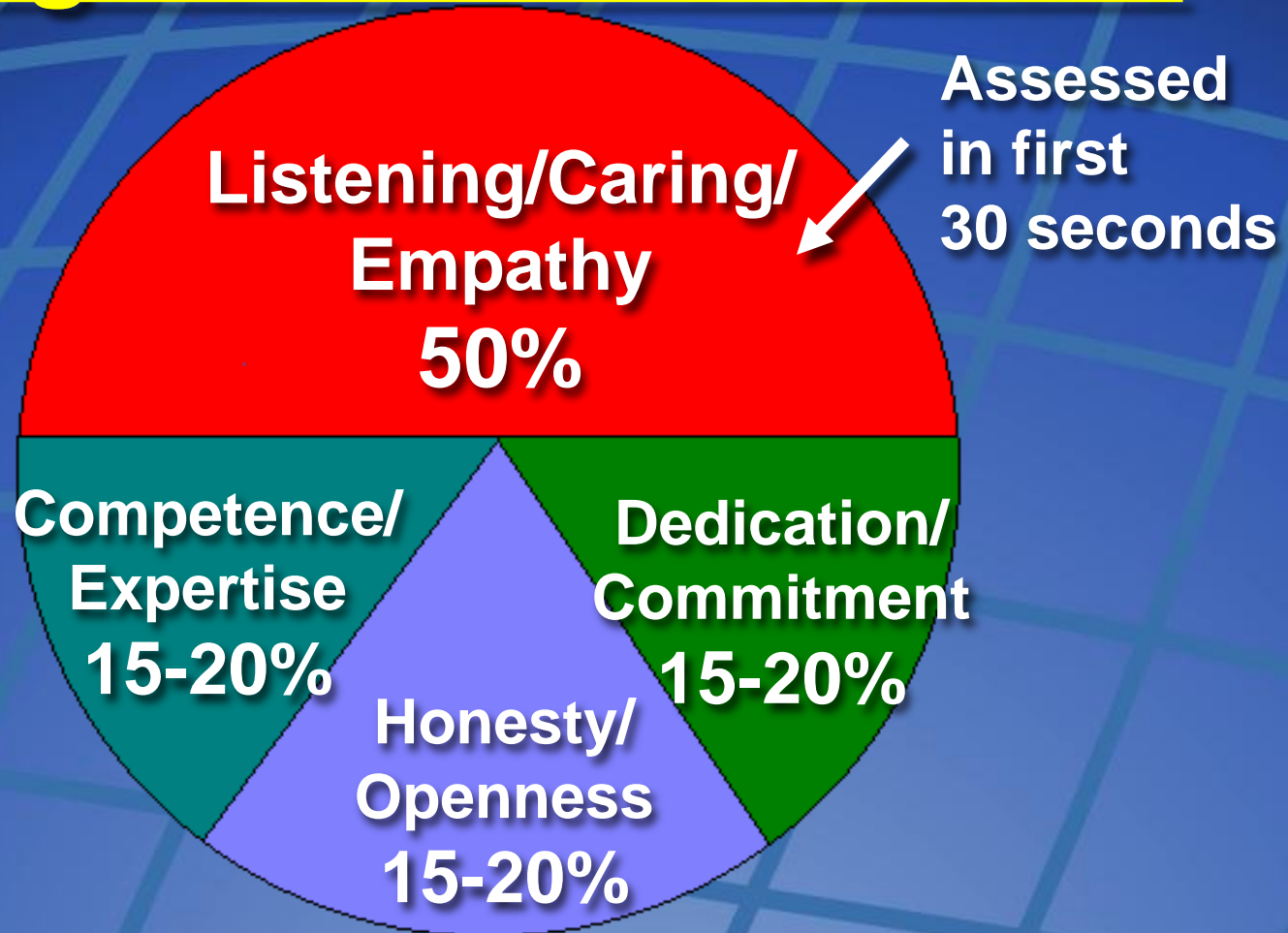
| <u>Factor</u> | <u>Weight</u> |
|----------------|---------------|
| Trust..... | 2000 |
| Control..... | 1000 |
| Benefits | 1000 |

Concerns - Risk Perception

Amplification Weights

| <u>Factor</u> | <u>Weight</u> |
|----------------|---------------|
| Trust..... | 2000 |
| Control..... | 1000 |
| Benefits | 1000 |

Trust Factors In High Concern Situations



Concerns - Risk Perception

Amplification Weights

| <u>Factor</u> | <u>Weight</u> |
|---------------------|---------------|
| Trust..... | 2000 |
| Control..... | 1000 |
| Benefits | 1000 |

Control-

- **Voice**
- **Choice**
- **Knowledge**

Concerns - Risk Perception

Amplification Weights

| <u>Factor</u> | <u>Weight</u> |
|----------------|---------------|
| Trust..... | 2000 |
| Control..... | 1000 |
| Benefits | 1000 |

Benefit-

- **Societal**
- **Community/Organizational**
- **Personal/Individual**

| <u>Cause of death</u> | <u>Annual risk</u> | <u>Lifetime risk</u> |
|------------------------|--------------------|----------------------|
| Motor vehicle accident | 1 in 6700 | 1 in 88 |
| Lightning | 1 in 3,000,000 | 1 in 39,000 |
| Shark Attack | 1 in 280,000,000 | 1 in 3,700,000 |

Risk Communication:

Key Messages

- Risk communication is a science-based discipline
- High concern situations change the rules of communication
- The key to risk communication success is anticipation, preparation, and practice

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Risk Communication Literature

- **Over 8000 Articles in Peer Reviewed Scientific Journals**
- **2000 Books**
- **Over 20 Percent Deal with Radiation Issues**

Risk Communication Literature: Example

Dr. R. Hyer and Dr. V. Covello

“Effective Media Communication During Public Health Emergencies:

A World Health Organization Handbook”

World Health Organization, United Nations:

Geneva, April 2007

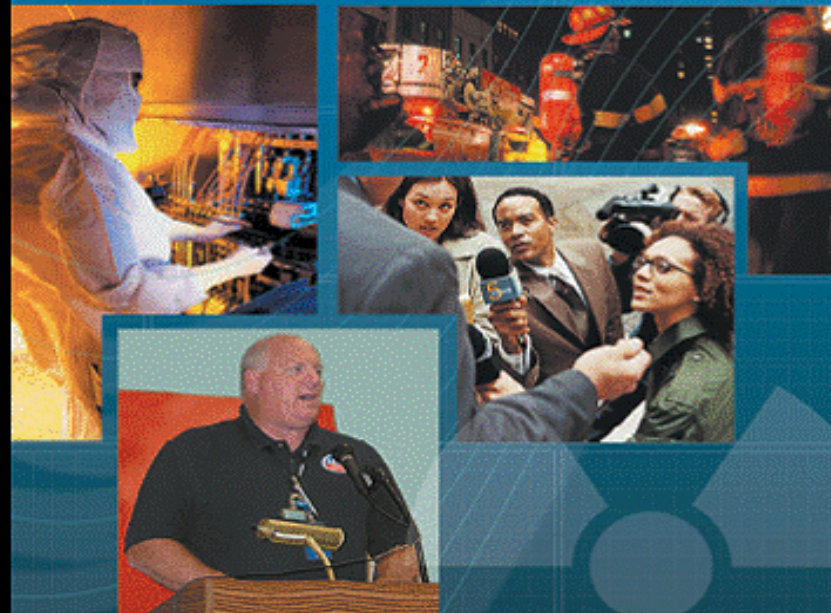
(www.amazon.com or www.who.int/bookorders)

“Communicating Radiation Risks”

- Sample scenarios
- Pre-approved messages
- Lessons learned



Communicating Radiation Risks



**Crisis Communications
for Emergency Responders**

Risk Communication Literature: Example

“Five Essential Elements of Immediate and Mid-Term Mass Trauma Intervention: Empirical Evidence,” *Psychiatry, 70(4): 2007*

Authors: Steven Hobfoll et. al.

Conclusion of Research

Provide people a sense of:

- Hope
- Self- and community efficacy
- Safety
- Calm
- Connectedness

Risk Communication: Resources

- M. Gladwell, “*Blink*”
- J. Lehrer, “How We Decide”
- S. Bok, “Lying”
- R. Fisher, “Getting to Yes”
- P. Ekman, “*Telling Lies: Clues to Deception*” (see also P. Ekman, “Emotions Revealed”)
- D. Morris, “*Body Talk: A Dictionary of Human Gestures*”
- E. Tufte, “Visual Explanations”

Risk Communication:

Key Messages

- Risk communication is a science-based discipline
- **High concern situations change the rules of communication**
- The key to risk communication success is anticipation, preparation, and practice

Risk Communication: Core Concepts

**When people are stressed or concerned,
they typically:**

- ...have difficulty, hearing, understanding, and remembering information
- ...want to know that you care before they care what you know.
- ...focus most on what they hear first and last.

Risk Communication: Core Concepts - continued

When people are stressed or concerned:

- ...the gap between reason and emotion (risk perceptions) often becomes wider.
- ...they typically focus much more on negative information than positive information.
- ...they typically process information at four grades below their education level.
- ...they typically seek out additional third party sources of credible information.

Risk Communication:

Key Messages

- Risk communication is a science-based discipline
- High concern situations change the rules of communication
- The key to risk communication success is anticipation, preparation, and practice

Seven Step Risk Communication Strategy

- 1. Identify a risk communication issue or scenario**
- 2. Identify the primary stakeholders/target audience**
- 3. Identify potential questions or concerns**
- 4. Develop key messages using message mapping**
- 5. Develop supporting information for key messages**
- 6. Test and practice messages**
- 7. Deliver messages through appropriate communication channels**

Risk Communication:

Core Principles

“Most of the concerns and questions of upset or concerned people can be predicted and prepared for in advance.”

Mark Twain

“It takes me an average of two weeks to prepare an impromptu speech.”

Mark Twain

Stakeholder Predictability

**“50 Most Frequently Asked Questions
by Terminally Ill Patients”**

Stakeholder Predictability

- **“77 Most Frequently Asked Questions by Journalists in a Disaster” (handout)**

Stakeholder Predictability

**“65 Most Frequently Asked Questions about
Pandemic Influenza”**

(www.pandemicflu.gov)

**“ 205 Most Frequently Asked Questions
Following a Water Security or Water
Contamination Event”**

**(USEPA, Effective Risk Communication
during Water Security Emergencies”**

EPA/600/R-07/027)

Radiological Emergency Research Finding:

(NUREG) Radiological Events

- *Over 450 questions anticipated from the media and the public*
- *14 categories of questions*
(for example, questions about evacuation, sheltering in place, health and safety, KI, and economic impacts)

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Key Messages

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Risk Communication Literature: Example

“The Magic Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information”

George A. Miller (Department of Psychology, Princeton University)

***The Psychological Review*, 1956, vol. 63, pp. 81-97**

Message Map

Stakeholder
Question or
Concern:

Key Message

9 words on
average

Key Message

9 words on
average

Key Message

9 words on
average

Support-
ing Info.
1.1

Support-
ing
Info. 2.1

Support-
ing Info.
3.1

Support-
ing Info..
1.2

Support-
ing Info.
2.2

Support-
ing Info.
3.2

Support-
ing Info.
1.3

Support-
ing Info.
2.3

:
Support-
ing Info.
3.3

Risk Communication Templates (see handout)

- CCO
- Rule of 3
- 27/9/3
- Primacy/Recency
- AGL-4
- 1N=3P
- IDK

Risk Communication/Message Mapping Templates

- CCO

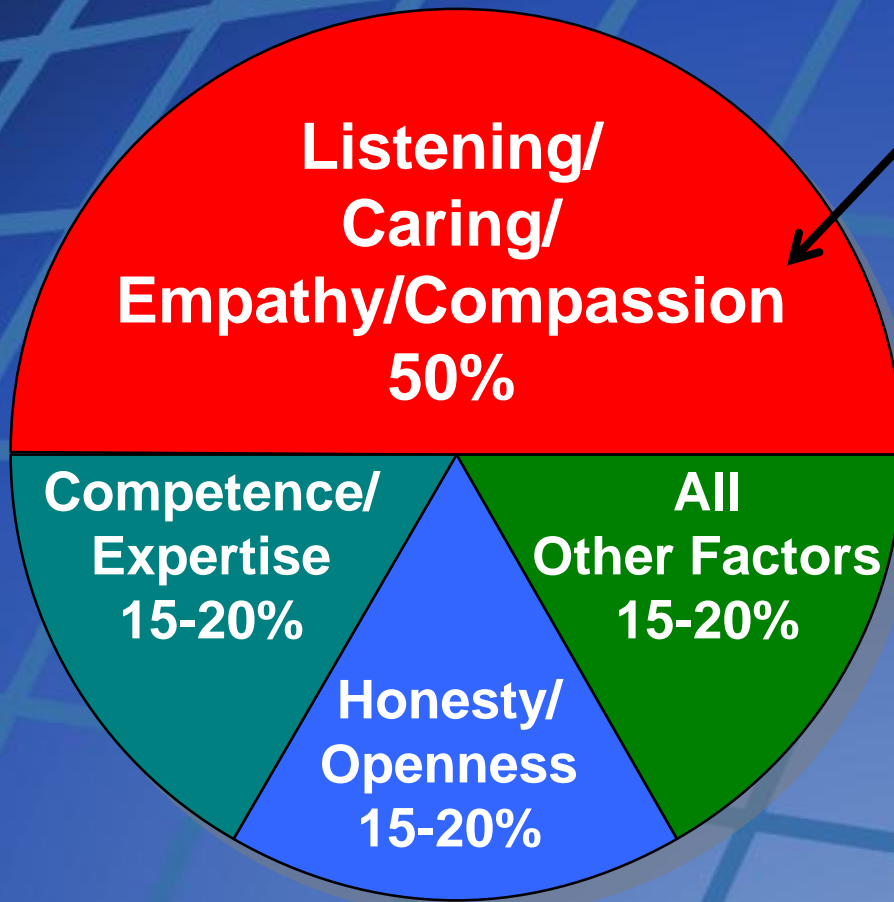
Caring/Empathy Principle

“When people are stressed and upset, they want to know that you care before they care what you know.”

The CCO Template

- **Compassion**
- **Conviction**
- **Optimism**

Trust Factors in High Stress Situations



Assessed
in first 9-30
seconds

Templates

- CCO
- Rule of 3
- 27/9/3
- Primacy/Recency

Mental Noise (Attention Span)



**Mental noise can
reduce
the ability to
process
communication up
to 80%**

Contact: CenterforRiskCommunication.org

Templates

- **Rule of 3**
- **27/9/3**
- **Primacy/Recency**

Mental Noise: The Rule of 3

Everything in Threes

- Three Key Messages**
- Repeat Messages Three Times (e.g., Triple T Model)**
- Key Messages Supported by Three Supporting Messages or Three Credible Sources**

Templates

- CCO
- Rule of 3
- **27/9/3**
- Primacy/Recency

The 27/9/3 Template

- 27 words
- 9 seconds
- 3 messages

Templates

- CCO
- Rule of 3
- 27/9/3
- **Primacy/Recency**

Primacy/Recency

Primacy/Recency

“When people are stressed and upset, they typically focus most on that which is said first (primacy) and last (recency).”

Primacy/Recency Template

- Low Stress Situations:

Brain processes information based on **linear order** (e.g., 1, 2, 3)

- High Stress Situations:

Brain processes information based on **primacy/recency** (e.g., 1, 3, 2)

TBC Template

(Trust, Benefits, Control)

Key Message 1: Trust Message

**Key Message 2: Benefits/Fairness
Message**

Key Message 3: Control Message

Special Topics

Credibility/Trust Ladder

**Most
Credible**

High Credibility

Medium Credibility

**Least
Credible**

Low Credibility



Credibility/Trust Ladders

- **Play a critical role in risk communication**
- **Need 3-4 credible positive sources to effectively offset one negative credible source**
- **Are specific to a culture (for example, elders)**

Credibility Transference

“A lower credible source takes on the credibility of the highest credible source that agrees with its position on an issue.”

Credibility Reversal

“When a lower source attacks the credibility of a higher source, the lower source loses further credibility.”

The only information source that can effectively attack the credibility of another source is one of equal or higher credibility.”

Persuasion

- **Appeals to Authority**
- **Appeals to Logic**
- **Appeals to Emotion**

Non-Verbal Communication

- Provide up to 75 percent of message
- Override verbal content
- Are intensely and quickly noticed
- Are interpreted negatively
- Are specific to a culture

Resource Materials: Non-Verbal Communication

- **P. Ekman, “Telling Lies: Clues to Deception”**
- **P. Ekman, “Emotions Revealed”**
- **D. Morris, “Body Talk: A Dictionary of Human Gestures”**

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