

Risk typology

	Individual effect	general effect
Individual cause	skiing roulette	genetic engineering
general cause	car driving	climate change ozone

Cultural Theory of Risk

parameters from individual - group conditions

	Low group adherence	High group adherence
Low individual liberty	risk is fatality	risk is avoided
High Individual liberty	promote venturing	condemn risk

ex: US green NGOs are high adherence and high liberty, their anti-nuclear actions are very decentralized, and the struggle against radiation risk is almost religious

the nuclear industry can have the same patterns, but nuclear is the symbol of modernity, it is a form of honor to work in it, condemn risk !

Risk Approaches

	<i>Individual effect</i>	<i>general effect</i>
Individual cause	perception	social structures
general cause	cognitive structures	cultural theory

Risk Approaches

	<i>Individual effect</i>	<i>general effect</i>
Individual cause	Perception positivist behaviorist	
general cause		Cultural Theory holistic, belief systems

Cultural Theory

**holistic, beliefs and habits in one society
constituting a way to understand the
world**

**risk is a system of signs that structure
social relationships**

4 clusters of values and risk perceptions:

**egalitarian, individualistic and hierarchy
cultural biases**

FOCUS GROUPS for Risk Communication

- **probe risk perception**
- **links between personal attitudes**

- **test media and sequence**
- **combine with emic terms**
- **learn about obstacles to communication**

- **design evaluation tools esp. wording, order and format**

PROCESS APPROACH to Communication based on Cultural Theory

Credibility

**identify motives
call for a fair hearing
complete messages**

Awareness

Understanding

**complex material is only learnt
unless people are interested in it
(clarity is always relative)**

Solutions

incorporate solutions

Enactment

predefined, continuous monitoring

Comparative Risk Assessment

mimics utility theory: in a given decision situation, the decision maker should choose the alternative with maximum expected utility

principals:

- numerical measurement**
- maintenance of consistency**
- analytical rather than political**
- expected losses and aggregate risk**

Comparative Risk Assessment

utility is always connected to values

risk taken for the whole of society are

societal decisions

example: chlorine in drinking water causes

400 excess cancers in the U.S.

active hazardous waste sites cause

100 excess cancers

comparing those involves equity:

who lives near the waste sites ?

Comparative Risk Assessment

**nuclear reactor: one-in-one-million chance
of a meltdown**

**biomass converter: one-in-one-million chance
of cancer through dioxin**

**coal-fired plant: SO₂ one-in-ten-thousand
chance for asthmatics death**

Societal decision is not indifferent:

a meltdown concerns all,

SO₂ only the asthmatics,

dioxin cancer risk is variant to individuals

and who benefits from electricity ?

Comparative Risk Assessment

always forecloses alternatives

**reduces the complexity of environmental
decisions**

hinders wise societal decisions

Improving Environmental Policy requires

Ethical debate

Flaws in Risk Communication

reassurance - arousal paradox

avoid through power sharing

information targeting paradox

go beyond objective impact area

information demand paradox

avoid media content, seek aspects

credibility - complacency paradox

show activity relation to trust

FOCUS GROUPS on RADON

**Radon causes about 20,000 lung cancer death per year
is a recent issue, no single cause and is actively pursued**

Results:

**only relations between Radon and smoking can be
improved**

lack of knowledge is not a factor for public apathy

rather

competition between environmental concerns

distrust of testing and mitigation companies

MIXED MESSAGES

in Risk Communication

Safety versus **Zero Risk** there are nonzero carcinogen exposure levels whose corresponding nonzero risk is so insignificant small as to be safe

Probability always includes a subjective judgment on the adequacy of the frequency data,
no-one is born with an intuitive understanding of one in a million, a sense of comparison is acquired

Significant versus **Nonsignificant** doesn't mention other nonrandom

Negative versus **Positive Results**

Conservative assumptions there is no worst-case

Population versus **Individual Risk** lifestyle, physiology

Relative versus **Absolute Risk**

Association versus **Causation**

Models of Perception

- **axiomatic** **ex: gain versus loss,**
focus on variance of
outcomes
- **psychometric** **scaling method**
voluntariness, dread, control,
equity, knowledge, catastrophic
potential, novelty
often not beyond 20 %
- **hybrids**

**Produce cognitive maps
but fail to establish heuristics
representativeness, anchoring, adjustment,
availability**

Real Risk

a combination of chance and negative consequence

Observed Risk

**evaluation of that combination based on a model of
the physical world**

Perceived Risk

estimate of real risk without such a model

**Risk : a non-reducible concept,
used to predict and control**

**Probability : frequentist versus subjectivist
interpretation**

Risk objectivism begs a baseline

Risk subjectivism is open, cannot fix error

**realism versus anti-realism is about a difference
between metaphysics and epistemology**