

Psychology of Risk Management

Extending System Safety Frontiers

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Consultant

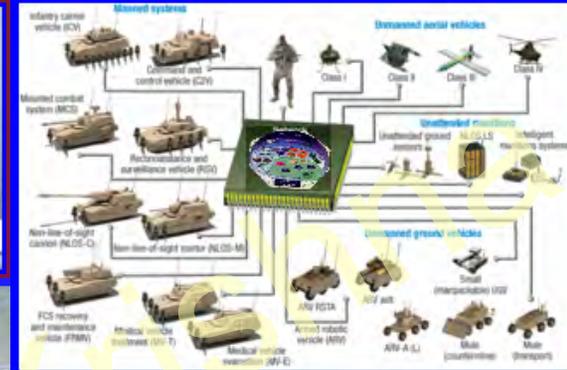
Safety, Structures, and Computer Applications

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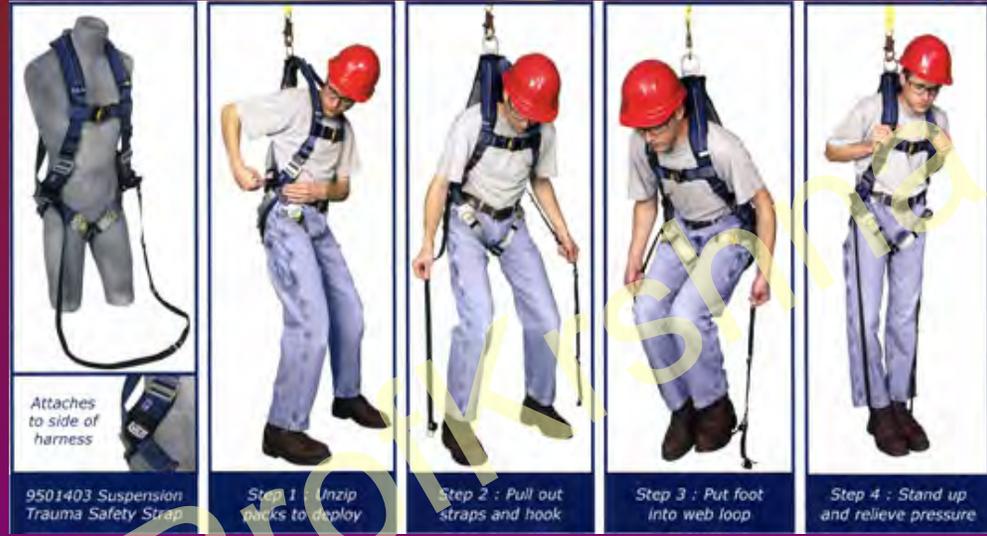
Table-top / computer war exercise



The cell phone - petrol station fire myth



Suspension trauma - Venous pooling



and its cure!
(Actually, a rope with loops at the ends would do!)

Let us apply the precautionary principle to this case.

Perception of Risk

Many over-estimate incidence of rare causes of death and underestimate frequency of more common ones.

(USA 45,000 traffic deaths versus a thousand in a war.)

People perceive risks as negligible, acceptable, tolerable, or unacceptable, compared with benefits, which should ideally outweigh risk significantly.

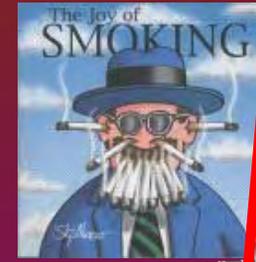
DOMINANT FACTORS

(a) Age:

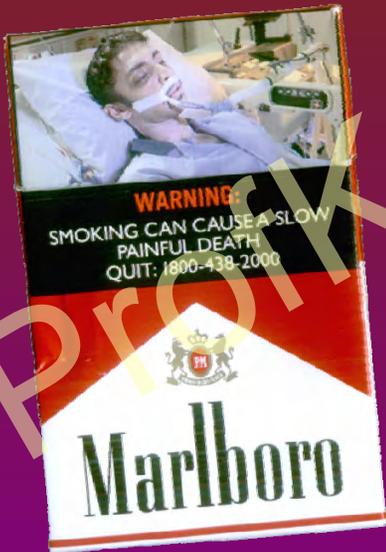
E.g. Sky diving, bungee jumping, "Who Dares Wins!"



Hazards We Go After



But Why Do We Go after Certain Risks?



RISK: Voluntary

PLEASURE: Certain Immediate

PENALTY: Uncertain Postponed

Perception of Risk (Contd.)

(b) Nature of Risk:

First in pair increases perceived risk, second reduces.

(i) Involuntary vs. voluntary exposure:

E.g. Electromagnetic radiation sources, smoking, use of cell phones

(ii) Lack of personal control vs. feeling of control over situation:

(Similar to the previous.) E.g. Fear of flying

(iii) Familiar vs. unfamiliar: Familiarity, or feeling of understanding of the technology, reduces the level.

E.g. Electricity and child, X-Ray.



[Known vs. Unknown]

nk Perception of Risk (Contd.)

(b) Nature of Risk (Contd.):

First in pair increases perceived risk, second reduces.

(iv) Insufficient vs. sufficient scientific information:

E.g. Doctor explains surgical procedure to patient.

(v) Dreaded vs. not dreaded:

E.g. Cancer, fire. Vertigo reaction.

(vi) Unfairness vs. fairness:

(vii) Permitted vs. punished: E.g. Cigarette vs. marijuana

If people are exposed to the electric and magnetic fields from a high voltage transmission line that does not provide power to their community, they consider it unfair.



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Perception of Risk (Contd.)

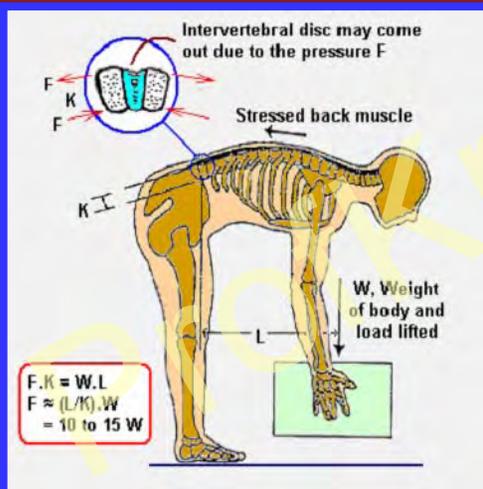
Example: A nuclear power station may be perceived as high risk by neighbouring communities who do not receive any benefit from it:



- Involuntary exposure to radiation
- Lack of control over siting and operation of the facility
- Unfamiliar technology
- Insufficient scientific information to assess health risks;
- Likelihood of dreaded disease like cancer, and,
- Unfair because the installation exposes the non-benefiting community to radiation.

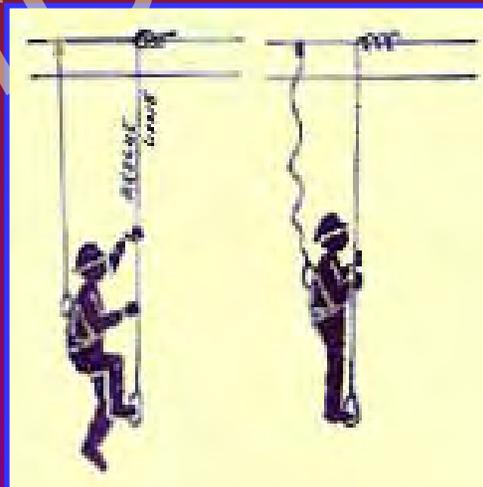
YET, if built with Govt. approval, people have to accept it.

nk Needed information examples



Manual handling

Rescue after fall



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Safety culture

- ❖ Covering up clothes-drying pole holder pipes when not in use, to prevent dengue mosquito breeding;
- ❖ Picking up a banana peel in your path and dropping it into a dust bin rather than just stepping around it – saving a pregnant wife or a doddering grandfather from slipping on it;
- ❖ Taking seriously posters and videos, recommendations and warnings, that authorities provide for safety – and acting on them;
- ❖ Reporting any missing scaffold planks at a worksite, unattended baggage at MRTs, and violation of safety norms anywhere, whether you are directly affected by them or not;

