

IS IT SAFE?

Tips for talking about pesticides with the public

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**Oregon State
University**

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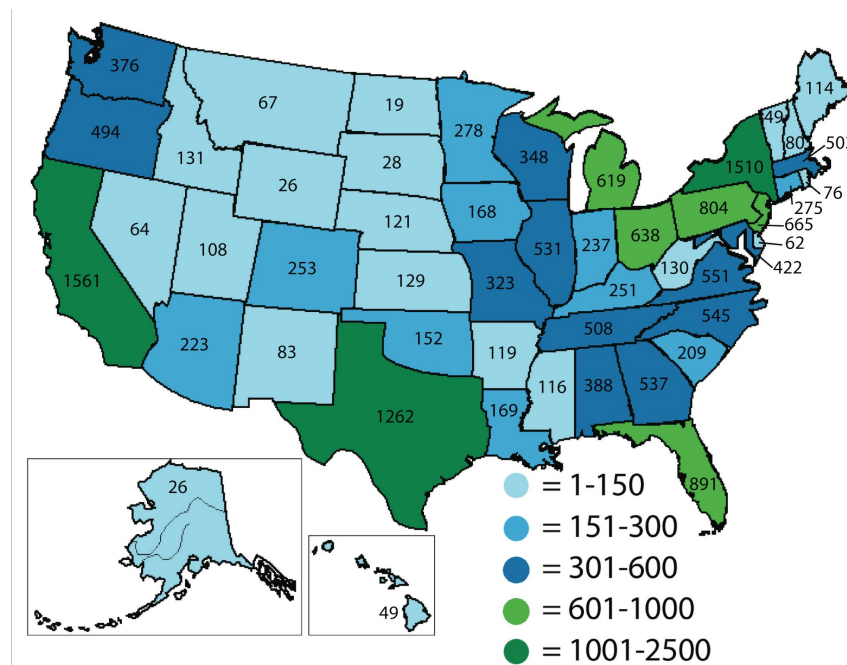
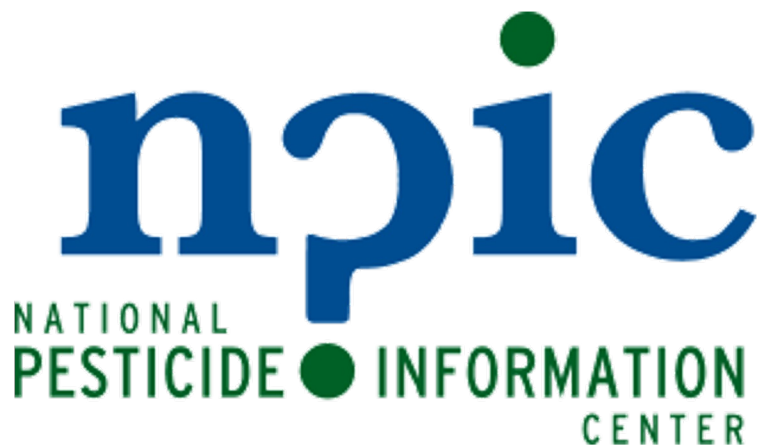
NATIONAL
PESTICIDE ● INFORMATION
CENTER

1.800.858.7378

npic@ace.orst.edu



*“Pesticide
Information,
How can I help
you?”*



Science-based information about pesticides

Toll-free phone service available:

11:00 – 3:00 Eastern; 8:00 – 12:00 Pacific

Funded through a cooperative agreement with EPA

<http://npic.orst.edu>

Most pages available
in English and
Spanish

Over 700 pages

Over 7 million page
views last year

A-Z index

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A-Z Index

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Disinfectant Safety Tips for Workers

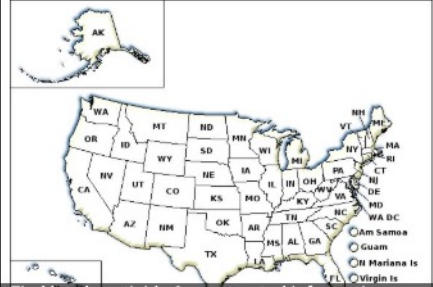
What are pests? What are pesticides? Local Contacts

Pests are destructive or nuisance organisms (insects, weeds, bacteria, wildlife) that affect crops, food, livestock, health, etc.

[How to Identify Your Pest](#)
[Pest-specific Information \(by name\)](#)
[Before You Control Your Pest](#)
[Pest Control Tips](#)
[Integrated Pest Management](#)

According to the law, a pesticide is any substance "intended for preventing, destroying, repelling, or mitigating any pest."

[Herbicides](#)
[Disinfectants](#)
[Fungicides](#)
[Insecticides](#)
[Natural and Biological Pesticides](#)
[Repellents](#)
[Rodenticides](#)
[Other types of pesticides](#)

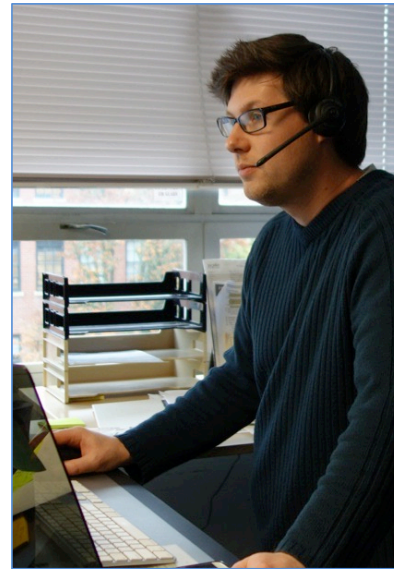


Find local pesticide & pest control information

Enter your zip code here...

Call the National Pesticide Information Center
1.800.858.7378

- To compare the toxicity of products
- To evaluate the persistence of pesticides
- To discuss specific pesticides and potential health effects
- To discuss risk to groundwater, fish, bees, or pets
- For help with confusing label statements
- To find local resources



Multi-lingual Services

- NPIC can respond to inquiries in over 170 languages
- Two Spanish-speakers on staff
- Interpreters available within 30 seconds

How long they may last can depend on many factors. The combination of the following factors influences pesticide movement.

AIR
Increasing temperature, sunlight, and pesticide breakdown. This and other factors affect the potential for pesticides to move through the air.

PLANTS
Pesticides are not easily taken up by plants and some plant types take up pesticides more easily, or collect them in different ways.

ENVIRONMENTAL CONDITIONS
Increasing temperature, sunlight, and pesticide breakdown. This and other factors affect the potential for pesticides to move through the air.

SOIL BINDING
Pesticides are not easily taken up by plants and some plant types take up pesticides more easily, or collect them in different ways.

PLANT UPTAKE
Pesticides are not easily taken up by plants and some plant types take up pesticides more easily, or collect them in different ways.

PESTICIDE USED
Pesticides are not easily taken up by plants and some plant types take up pesticides more easily, or collect them in different ways.

DROPLET SIZE
SMALL DROPLETS CARRY FURTHER BUT DISSIPATE FASTER
LARGE DROPLETS FALL FASTER BUT STAY ON TARGET BETTER

NATURAL WATER
If a pesticide does reach water, it may not move as far as you think. Some pesticides bind tightly to sediment where they settle out.

WATER TABLE HEIGHT
When the water table is shallow, pesticides may be more likely to reach it.

LAND PROFILE
SEDIMENT BINDING

WATER MOVEMENT

TYPE OF PESTICIDE
Pesticides more easily, or collect them in different ways.

MICROBIAL COMMUNITY
Pesticides more easily, or collect them in different ways.

For more information about pesticides or their movement in the environment, contact us M-F 8am-12pm PST at 800-858-7378.

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NATIONAL PESTICIDE INFORMATION CENTER

Wipes that don't claim to control germs or viruses might not be regulated by EPA or FDA.

Disinfectant Wipes
EPA requires disinfectant wipes to be used according to the label. Follow the directions fully.

Other Wipes
Other wipes are not all the same. Check the label first.

Drug Facts
Wipes with "Drug Facts" are for use on people or living things. Use hand sanitizing wipes for disinfecting surfaces.

Do NOT use disinfectant wipes on hands or skin. Wash hands after using wipes on surfaces.

Hand sanitizing wipes are for hands, and are NOT baby wipes.

Wipes with "Drug Facts" are for use on people or living things. Use hand sanitizing wipes for disinfecting surfaces.

Evite exponerse a los pesticidas con ropa protectora

El uso de la toxicidad "natural" o baja de un producto puede causar daño a la salud si no se usa la ropa protectora adecuada. Minimice el riesgo usando un equipo de protección personal (PPE). Es posible que diferentes productos necesiten PPE diferente. Antes de usar pesticidas, siempre lea y entienda la etiqueta.

- Use gafas de seguridad o gafas protectoras.
- Guarde la protección para los ojos en un lugar seguro.
- Limpie las gafas contaminadas de inmediato.
- Use mangas largas y pantalones largos.
- Lave la ropa contaminada separada de la otra ropa.
- Use guantes o pañuelos para cubrir.
- Revise la etiqueta para obtener más instrucciones.
- Inspeccione con frecuencia en busca de agujeros o rasgaduras.
- Diferentes guantes dan niveles diferentes de protección.
- Tire los guantes desechables después de cada vez que los use.

PUNTOS CLAVE

- Siempre siga la etiqueta.
- No guarde el PPE con la ropa personal.
- No guarde el PPE con sustancias químicas.
- Lave la ropa protectora separada de la otra ropa sucia.

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NATIONAL PESTICIDE INFORMATION CENTER

Contacto: 800-858-7378
De 8 a 12, PST, de lunes a viernes
npic.orst.edu
npic@ace.orst.edu

How do people know about NPIC?

- Product labels – About 1/3
- Internet – About 1/3
- Pest Control Companies – About 12%
- Other: pesticide regulators, health departments, health care providers, university experts, social media, etc.





One-on-One



Website



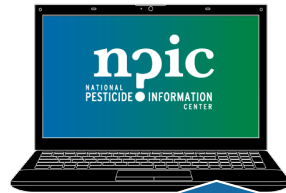
Social Media



Mobile apps



Podcasts



Webinars



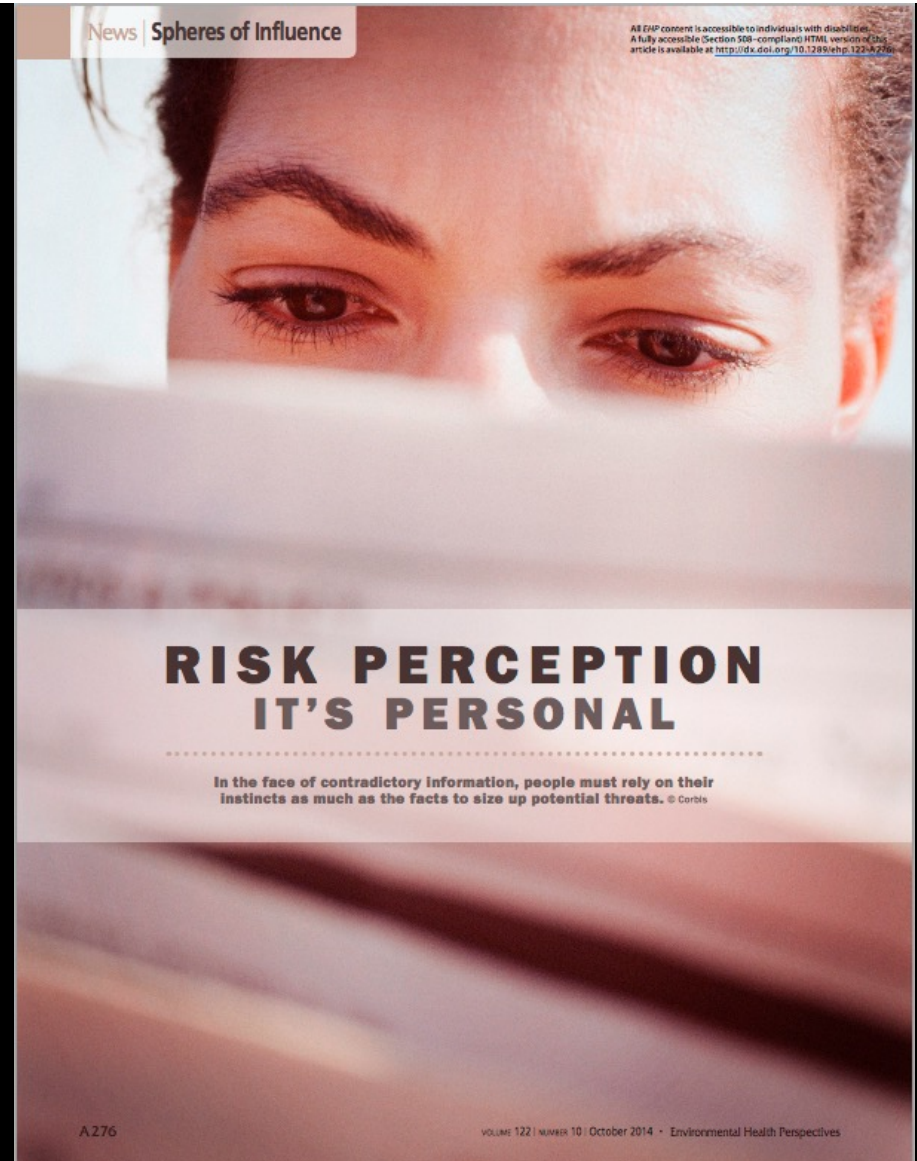
Comics



Videos

Risk Perception

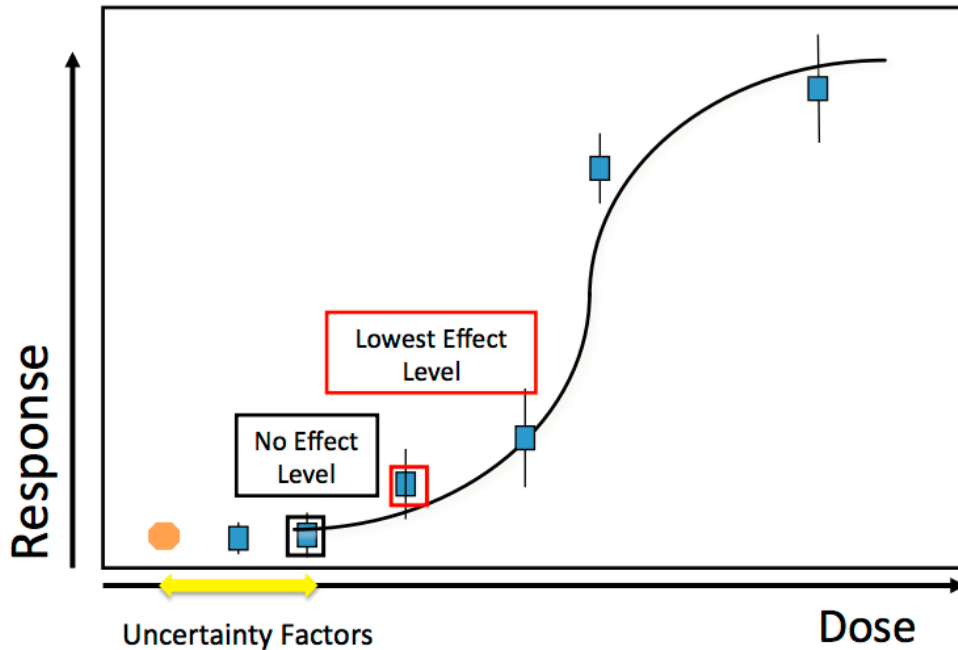
- Most risk perception is determined by *fast* intuitive feelings.
- Understanding risk perception is critical for effective communication.



- Risk does not exist “out there,” independent of our minds and cultures, waiting to be measured.
- Human beings invented the concept risk to help them understand the uncertainties of life.
- Many communities perceive risks differently.
- Trauma can inform risk-perception (internal calculations)



When professionals say “risk,”
we’re thinking of “probability.”



Risk is measured at the population level.
-Percent of population impacted-

When others hear “risk”
they may think “danger.”



Risk is understood at the
individual level.
-Will it hurt me or not?-

Safety

Yes or No

No precautions necessary

Safe is safe for everyone

Easy to explain

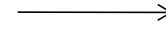
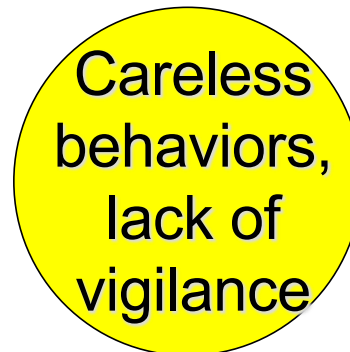
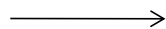
Risk

More risky-----Less risky

Precautions reduce risk

Risk is higher for certain people

Harder to explain



The word “safe” is unsafe.

Question: Is it safe?



If you answer:

"It's so safe you can drink it."

"It's safe, trust me."

"It's non-toxic, all natural."

The client may think:

No precautions are necessary.

I don't need to do anything.

Natural products can't hurt me.

You said it was safe!

You filled your swimming pool with what now?



Re-frame the “safe” question

Is it safe?

The risk is low, but tell me about your specific concerns...



Listen

Quickly explain why “safe” isn’t the right word or mindset

Discuss risk level and things that affect it

So, how can you answer the question, "Is it safe?"

1. Ask questions and listen

Many people have specific reasons why they are concerned whether it be for their children, pets, or the environment. Listening and asking questions about their concerns shows that you care about safety. It can also help you identify where you might need to take additional precautions.

2. Discuss the level of risk, rather than safety

Every pesticide is toxic if the exposure level is high enough. Therefore, no pesticide is entirely safe. Safety is based on each individual's level of risk tolerance and is subjective. When you are talking to the public, consider quickly explaining why it's better to talk about the level of risk.



$$\mathbf{Risk} = \mathbf{Toxicity} \times \mathbf{Exposure}$$



- Toxicology of active ingredient
- Product signal word
- Dose estimate
- Effects (signs, symptoms) reported in the literature
- Onset, duration and resolution of symptoms

- Distance to application site
- Route of potential exposure
- Physical/chemical properties of active ingredient
- Duration/frequency of exposure
- Bioavailability by the route in question

*There is no acceptable **risk**
in the absence of **benefit.***

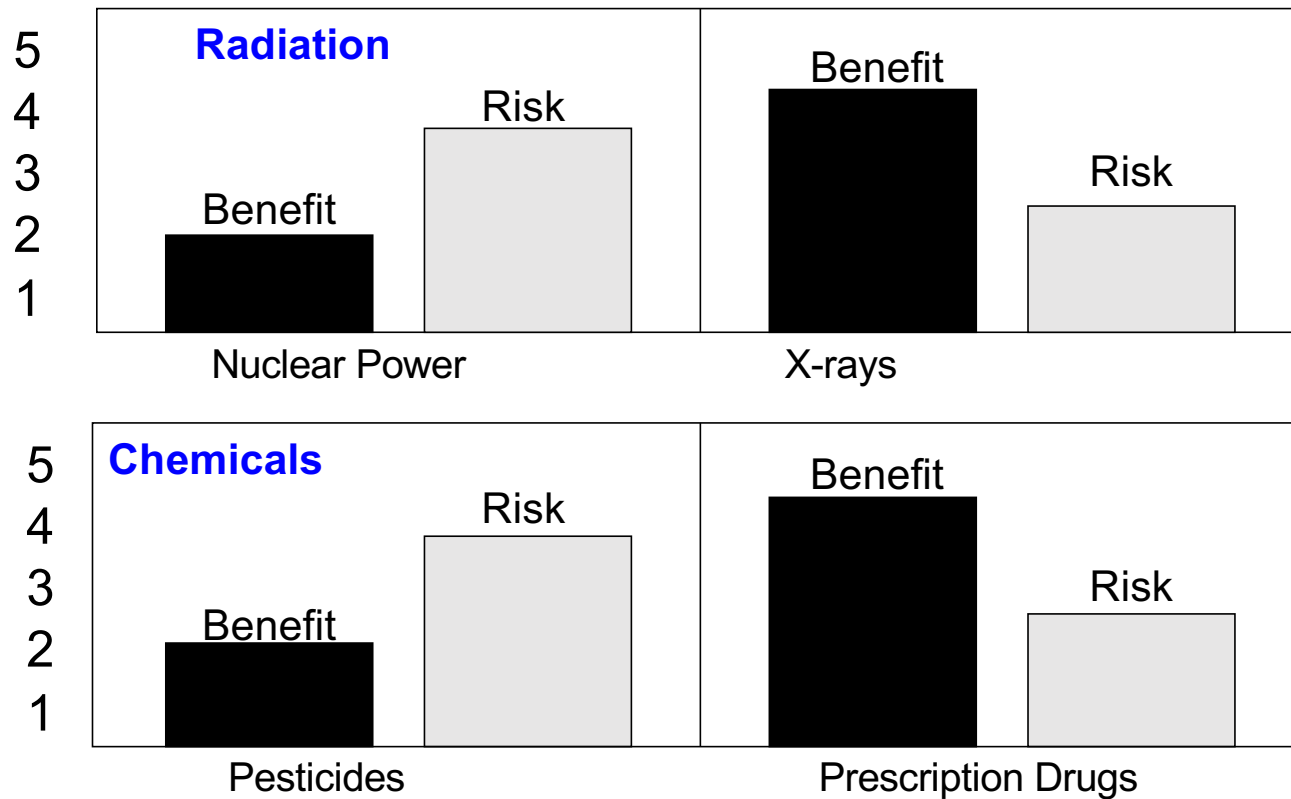


Figure 3. Mean perceived risk and perceived benefit for medical and nonmedical sources of exposure to radiation and chemicals. Each item was rated on a scale of perceived risk ranging from 1 (very low risk) to 7 (very high risk) and a scale of perceived benefit ranging from 1 (very low benefit) to 7 (very high benefit). Note that *medical sources of exposure have more favorable benefit/risk ratings* than do the nonmedical sources. Data are from a national survey in Canada by Slovic et al., 1991.

Risks are less likely to be acceptable if the benefits are hidden from view, or if they are not fairly distributed among those who bear the risks.



Benefits of Pesticides



Risk denial increases with perceived control

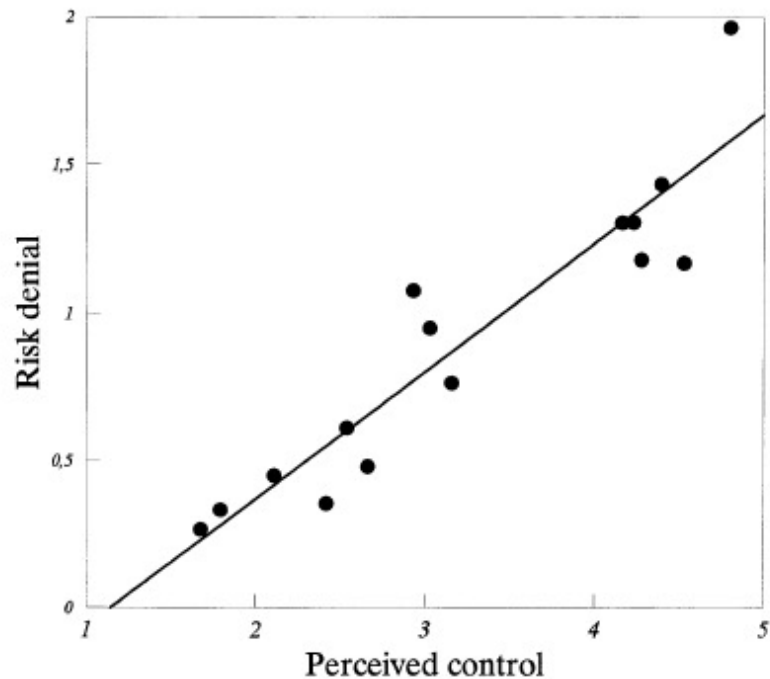
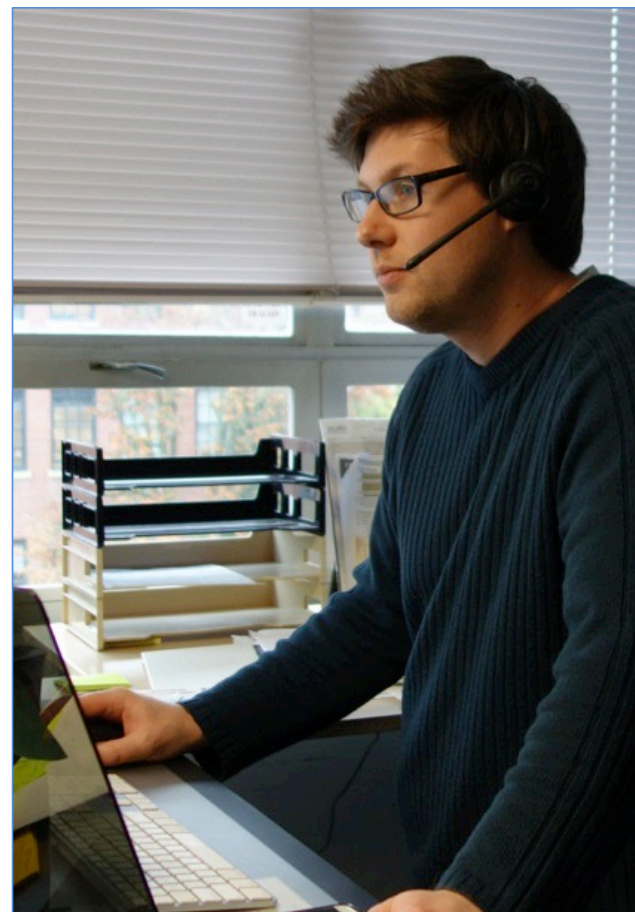


Fig. 2. Risk denial (general minus personal risk) plotted against perceived control over risks. Each point corresponds to one hazard; mean ratings are plotted.

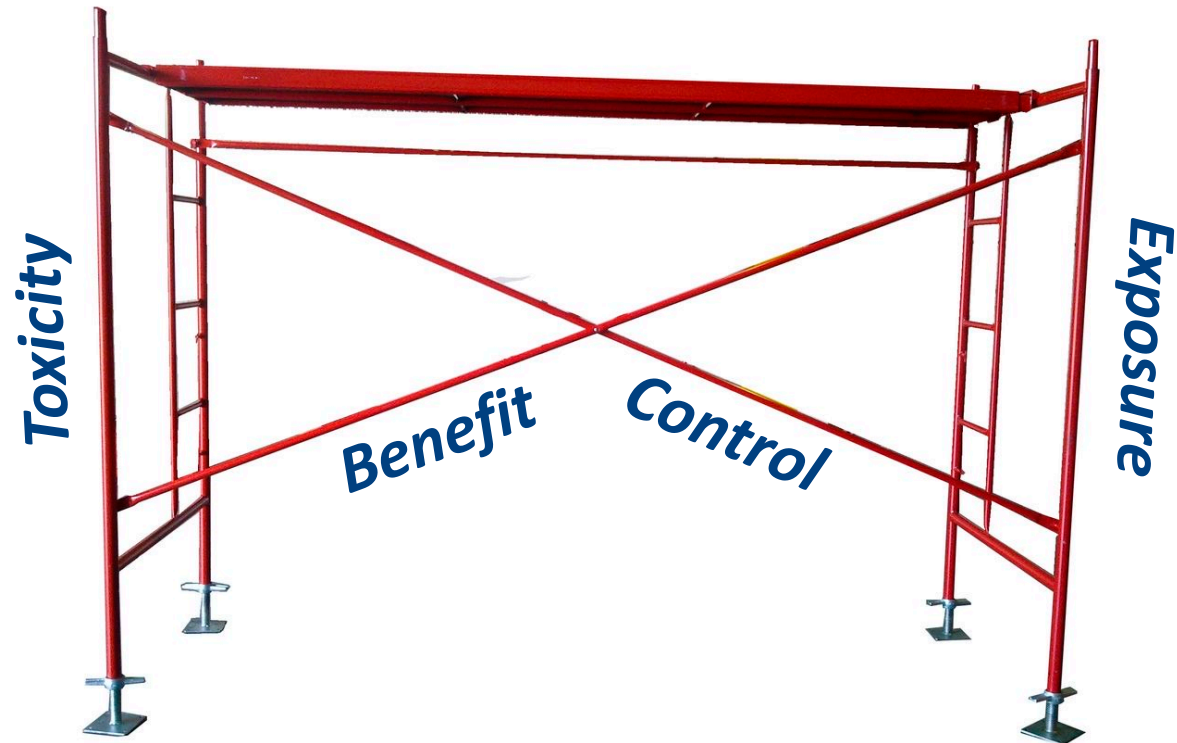
Ways to Minimize Exposure

Liquid pesticide applied to a residential yard:

- Read, understand and follow all label instructions.
- Avoid contact with the pesticide when the product is wet.
- Avoid area during application, especially downwind from application.
- Apply at low pressure to avoid generating pesticide "mist."
- Be aware that wet or shaded areas may not dry as fast as sunny locations.
- Keep people and pets off treated area for amount of time specified on label, or until dry if not specified.
- If you have to walk on the treated area, remove shoes before going inside to minimize 'tracked-in' residue on floors.
- Do not apply on windy days. This will minimize the potential for drift and improve efficacy.
- Apply only in areas where there is an active pest problem.
- Read, understand and follow all label instructions.
- Remove any items that may accidentally come in contact with the product (toys, swings, plants).
- Immediately following application, wash hands, face and clothing.
- Using appropriate PPE (following label directions), wipe up any puddles of product.
- If you have a well, follow product directions for maximum proximity of the application to the well-head and use products with low soil-mobility.
- Avoid any direct skin contact with treated areas, even after product dries.
- Use only pesticides labeled for use in outdoor residential lawns.
- Use caution mowing, edging and trimming afterwards; some pesticide residues may be irritating even after they have dried if the mower "kicks up" grass/dust containing pesticide.
- Always store pesticide products in such a manner that children will not have access.



Informed Risk Decision-Making



The “Deficit Model” is a Trap.



In reality, everyone has knowledge to share.



In this study, people with different worldviews were asked about their attitudes towards nanotechnology, before and after being given information about nanotechnology.

Some questions that measure worldviews (agree?)

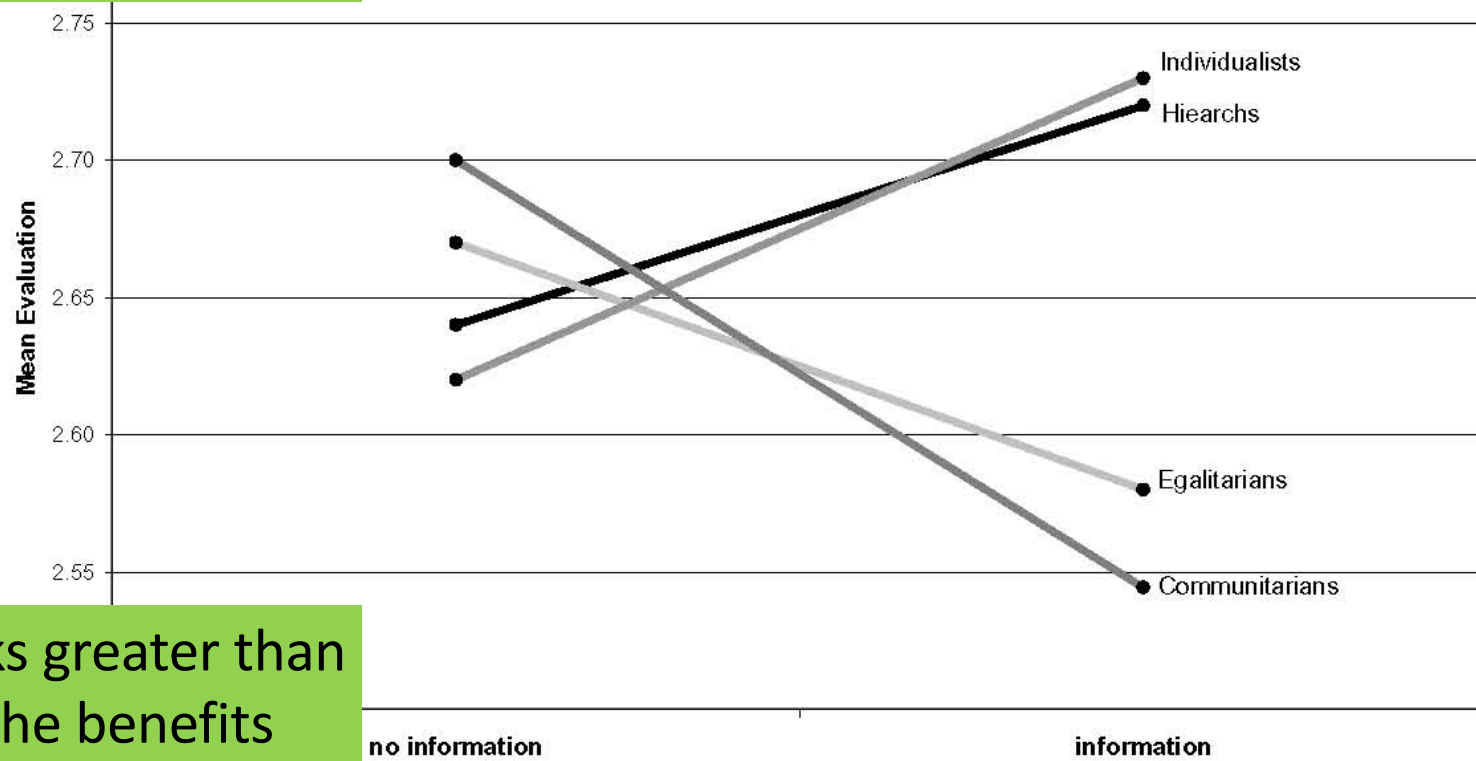
The government should stop telling people how to live their lives
(Individualism)

The government should do more to advance society's goals, even if
that limits the freedom of individuals (Communitarian)

Our society would be better off if the distribution of wealth was
more equal (Egalitarianism)

We should let the experts make all the risk decisions for society
(Hierarchism)

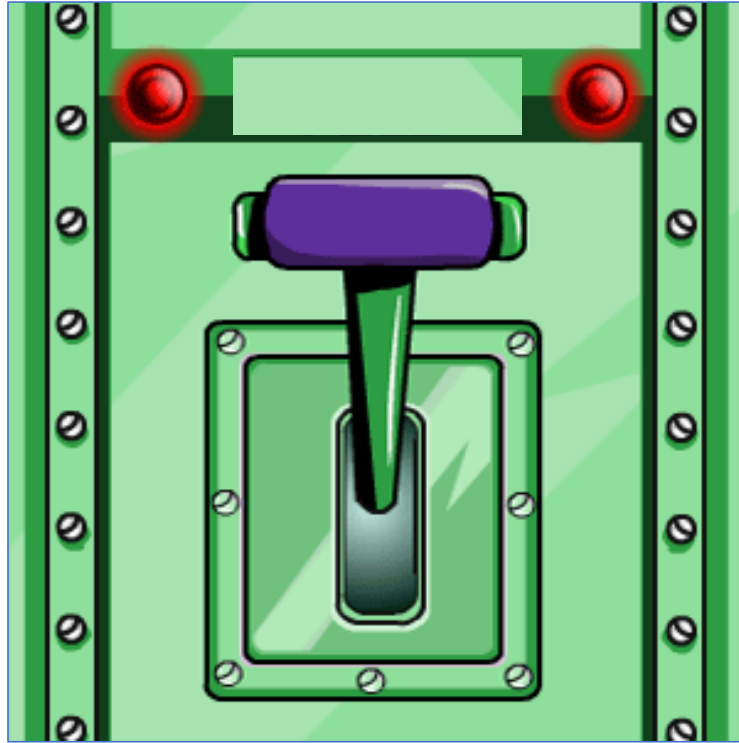
Benefits greater than the risks



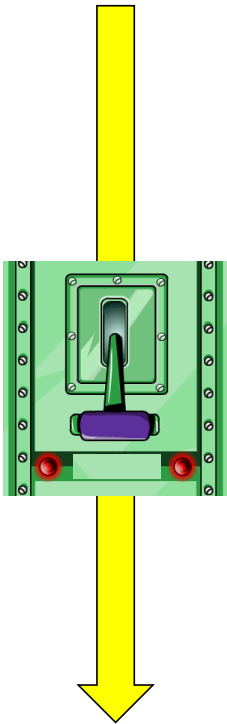
Risks greater than the benefits

Figure 4. Impact of Information Across Condition by Dimension of Cultural Worldview

Increase perceived **benefit** and/or **control**...



Decrease perceived **risk**.



Lower risk perceived

In person's control ----- Out of person's control

Voluntary ----- Imposed

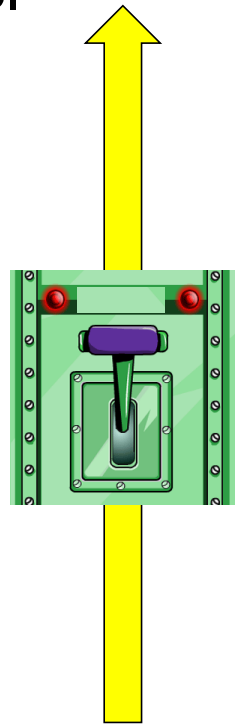
Beneficial ----- Not beneficial

Natural ----- Man-made

Affects only adults ----- Affects children

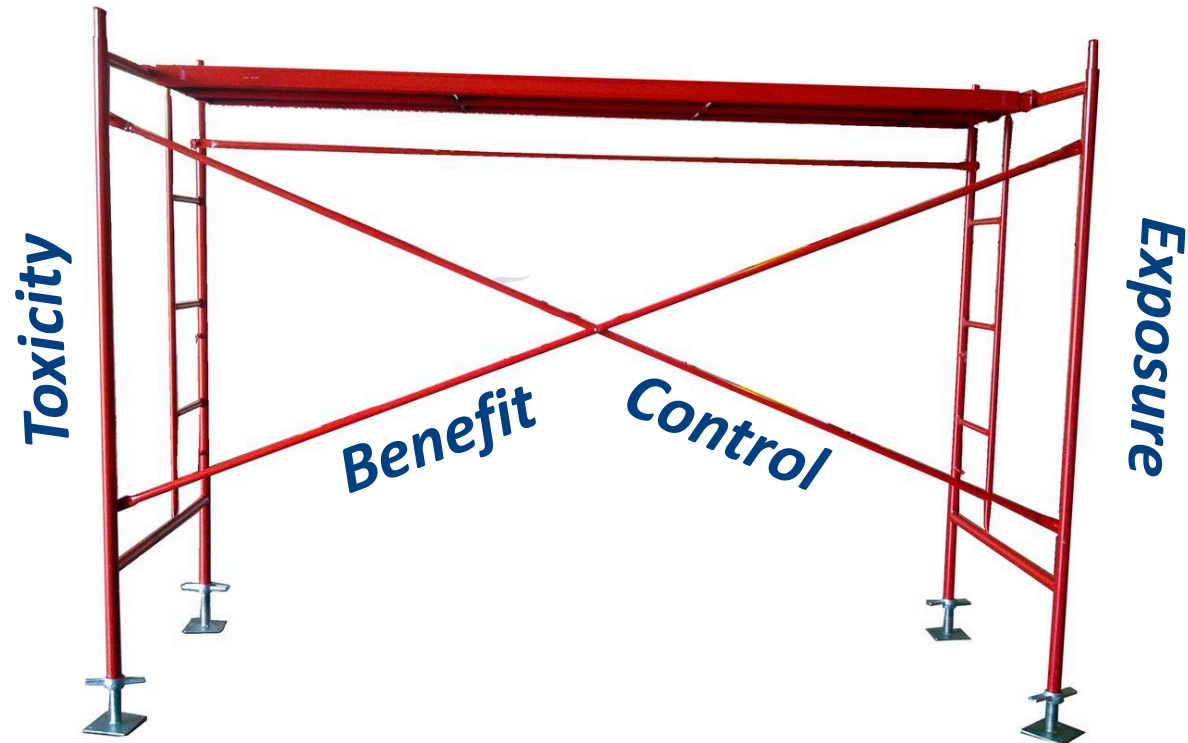
Familiar ----- Exotic

Trusted entity ----- Untrusted entity



Higher risk perceived

Informed Risk Decision-Making





A Proposed Checklist:

Frame as risk rather than safety: _____

Provide hazard/toxicity information: _____

Provide exposure information: _____

Benefit(s) of the activity/thing: _____

Action items in person's control: _____

Where to get more information: _____

the **DEBUNKING** handbook

It's not just
what people
think that
matters, but
how they
think.



the **DEBUNKING** handbook

The overkill backfire effect

MYTH
FACT FACT FACT
FACT FACT FACT
FACT FACT FACT
FACT FACT FACT



MYTH
FACT
FACT
FACT



In summary, **some suggestions:**

- Benefit(s) often inform risk perception more than the probability of harm.
 - Defining risk is an act of power.
 - 'Safe' is not a safe word.
-
- **Don't be silent about benefits when discussing risk.**
 - **Don't define risk for people. They may feel dominated.**
 - **Discuss risk, and ways to reduce it. Empower people.**



A Proposed Checklist:

Frame as risk rather than safety: _____

Provide hazard/toxicity information: _____

Provide exposure information: _____

Benefit(s) of the activity/thing: _____

Action items in person's control: _____

Where to get more information: _____

RISK COMMUNICATION

Is it Safe?

February 1, 2024

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