








Social determinants of risk perception

Martin Birley
BirleyHIA





www.BirleyHIA.co.uk



Summary

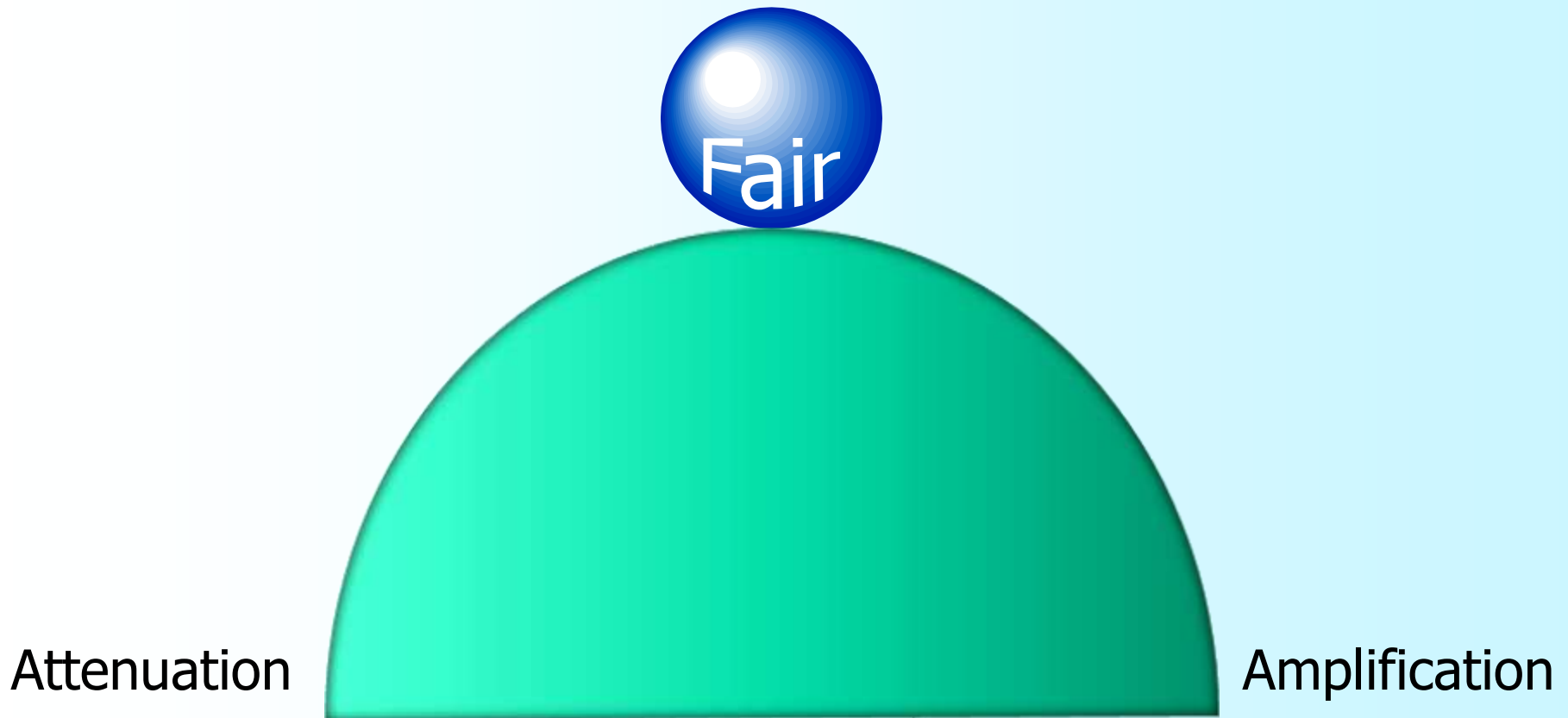
-  Risk perceptions can be biased
-  Literature review
-  5 models
-  Mitigation measures distorted
-  New tools needed

Risk Assessment Matrix

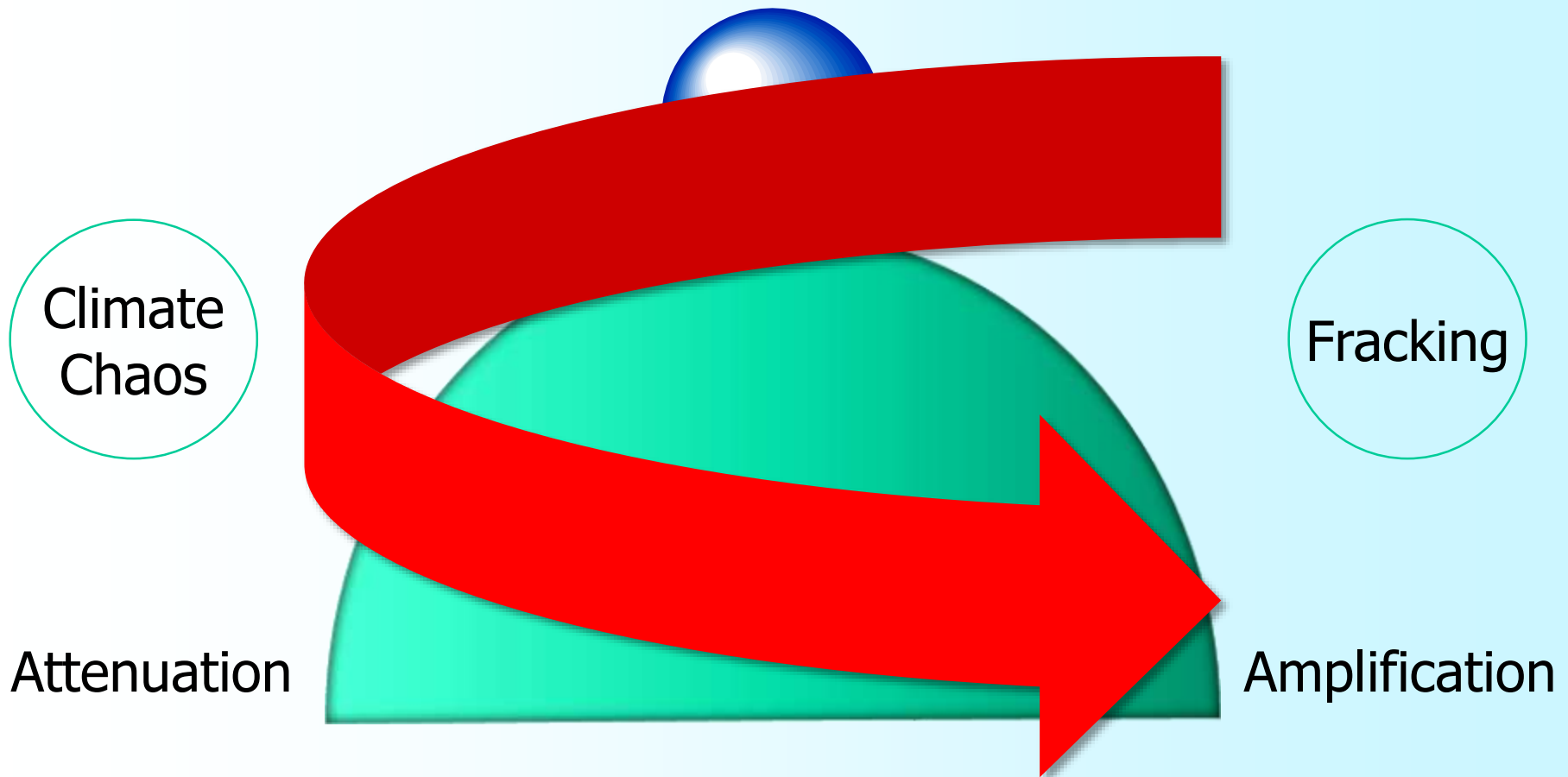
-  Integrated ESHIA
-  Likelihood/Severity/Significance
-  Expert group consensus
-  Biased by risk perception?

	Likelihood rank				
Severity rank	Green	Green	Green	Green	Green
	Green	Green	Light Purple	Light Purple	Light Purple
	Light Purple	Light Purple	Light Purple	Light Purple	Light Purple
	Light Purple	Light Purple	Light Purple	Red	Red
	Red	Red	Red	Red	Red

Unstable risk perception



Unstable risk perception



Climate
Chaos

Fracking

Attenuation

Amplification

Models of risk perception



Information Deficit



Psychometric



Cognitive Bias



Social Amplification



Cultural Worldviews

New information
does not always
lead to
convergence of
risk perceptions

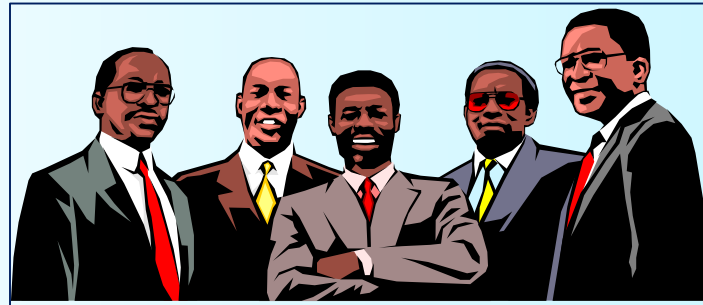
Information
deficit model

It's what we feel
that counts

Feelings and images

Project	Images generating	
	Negative feelings	Positive feelings
City sewer	Dark smelly tunnels full of rats	Cleanliness waste removal flood prevention
Fracking	Poisoned wells climate change disruption	Cheap clean local energy

Psychometric

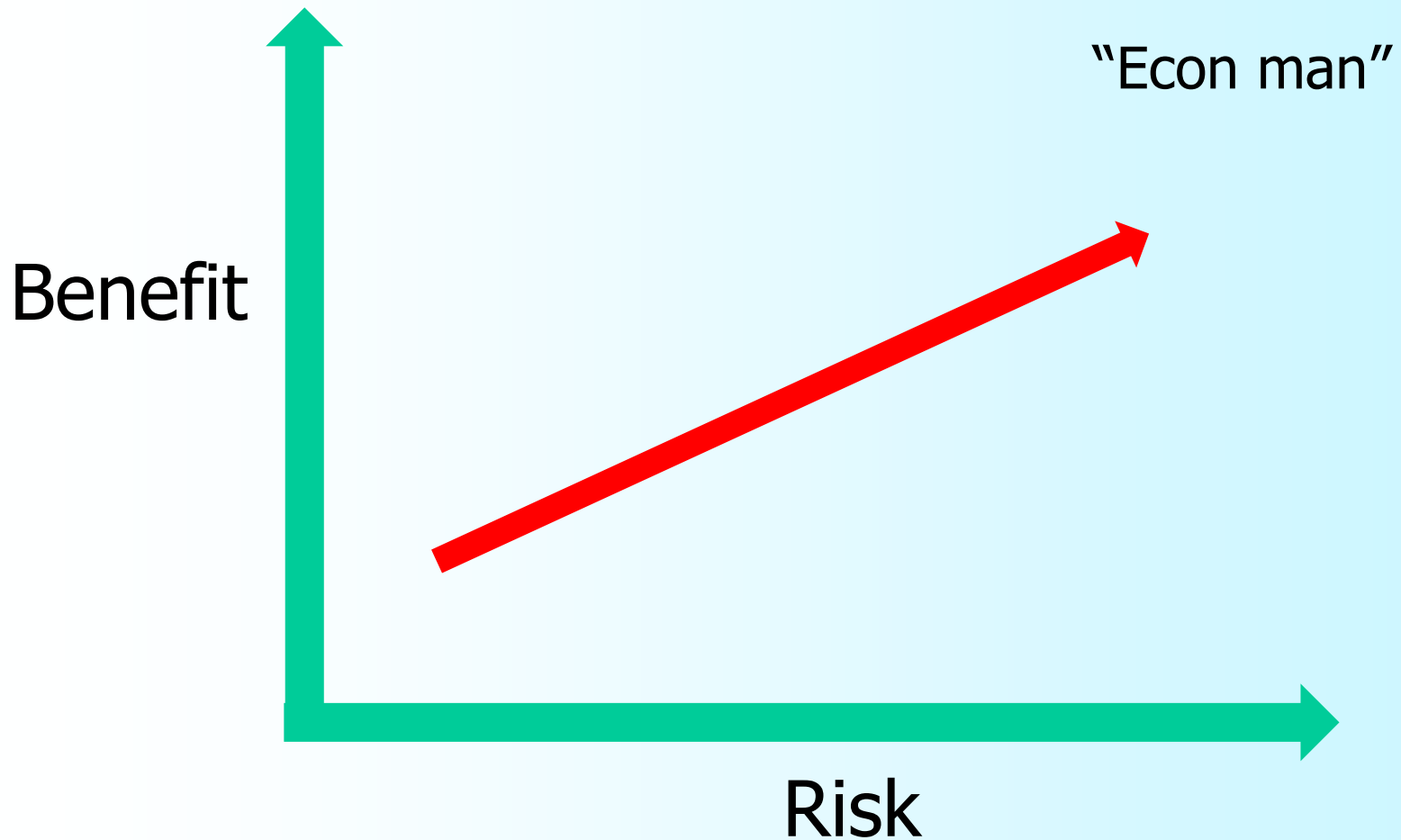


Voluntary risk takers

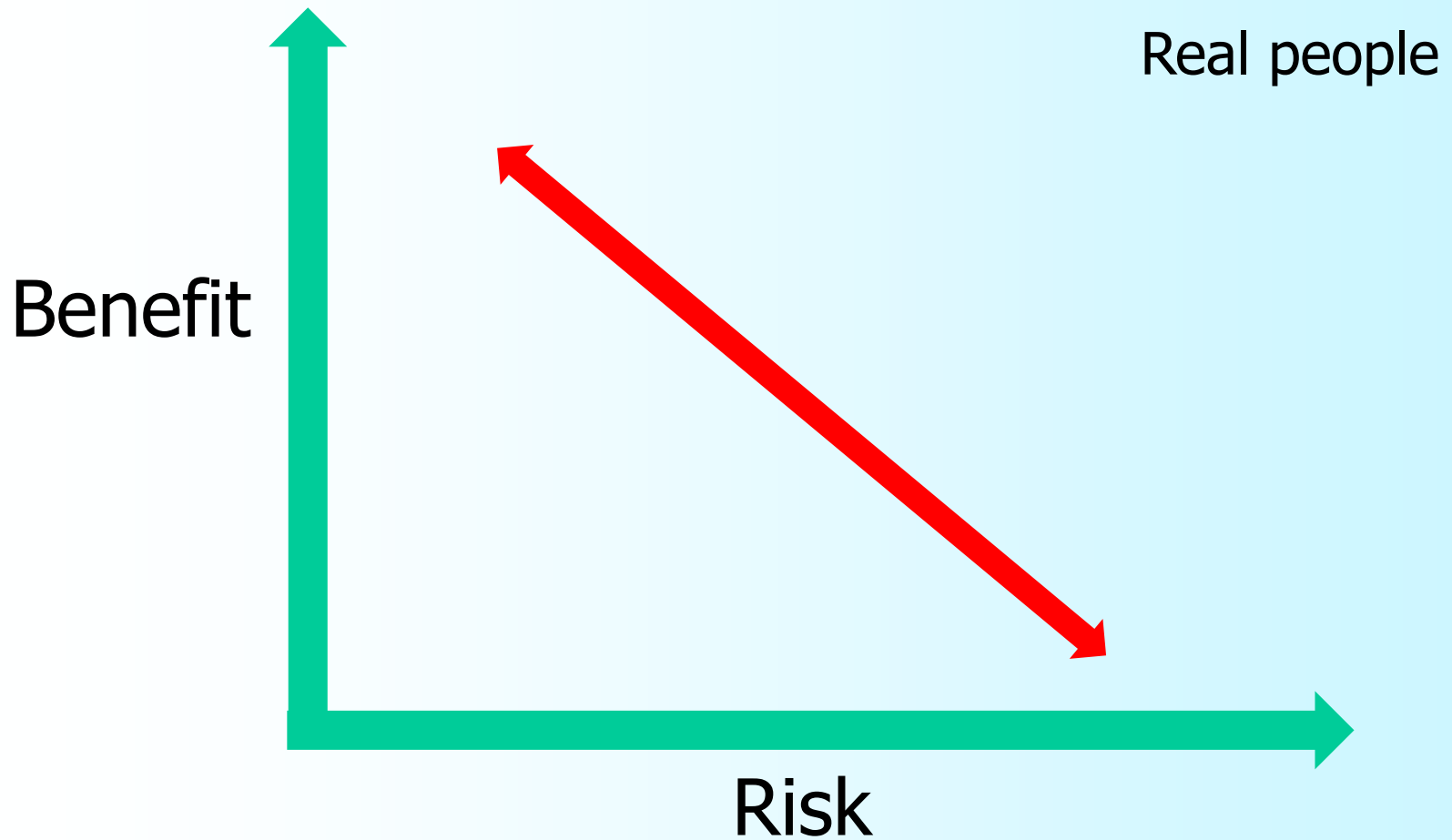


Involuntary risk receivers

Risk/benefit relationship



Inverse relationship



Two types of thinking

	Characteristics	Example
Affective	Fast intuitive automatic emotional use heuristics	Anxiety about a risk based on gut reactions
Analytic	Slow Deliberative effortful computational	Judgement about a risk based on deliberation

Cognitive biases

Type	Example
Optimism	Budget too low, timescale too short
Framing	Narrow scoping
Confirmation	Choosing evidence that fits preconceptions
Certainty	Confusing risk with uncertainty

Cultural worldview

Status anxiety

Information that challenges our group identity is a threat to status and is rejected

“White Male Effect”

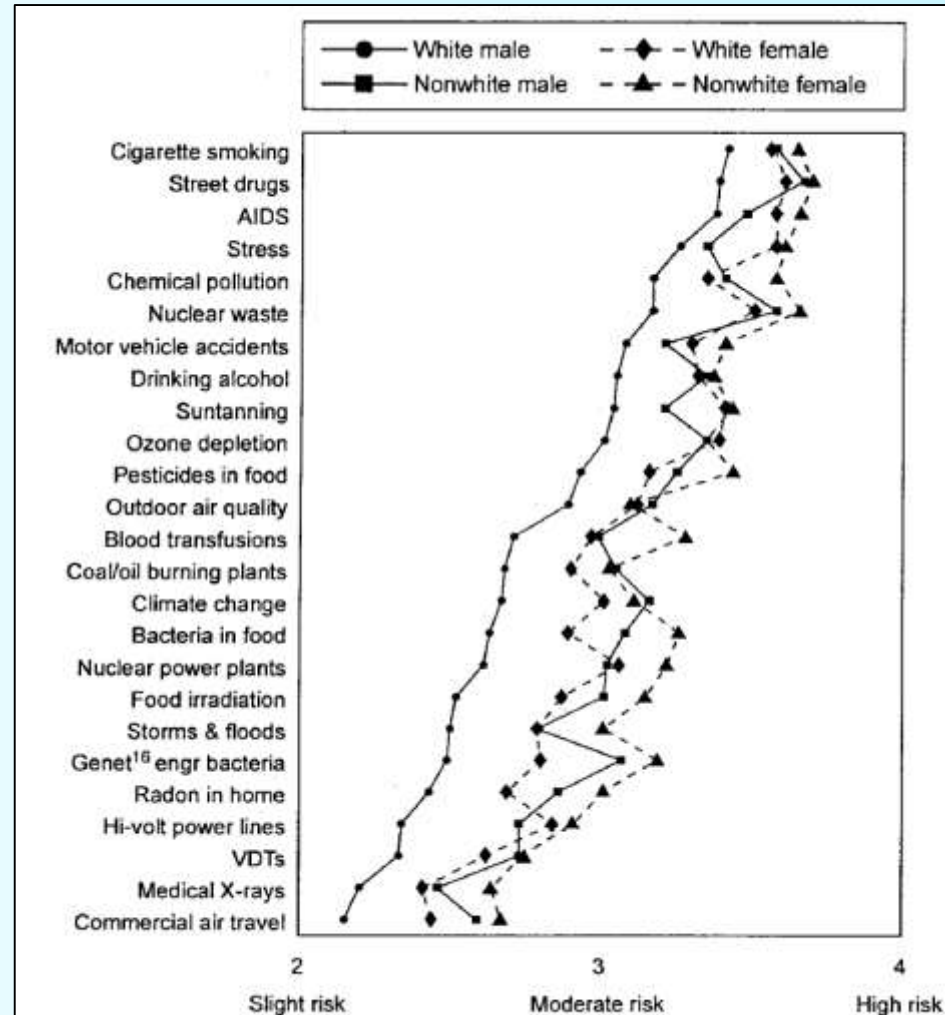


Figure 1. Mean risk-perception ratings by race and gender. Source: Flynn et al. (1994). Reprinted with permission.

Making money out of risk perception

Attenuation	Amplification
Merchants of Doubt	Merchants of Fear
Climate change Acid rain Tobacco	News media Security products Pills
Conway and Oreskes 2010	Gardner 2009

Mitigation of perceived risks

Attenuation	Amplification
Insufficient	Excessive
Climate change Smoking Particulates	Fracking Terrorism Stranger danger

Conclusion



Risk perception can bias Impact Assessment



Understand, classify and respond to multiple stakeholders



New tools needed to stabilize risk perceptions

End

See paper for details (#121) and references

Acknowledge

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