



Risk perception

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Overview

1. Risk perception (including environmental risk perception and beliefs about climate change)
2. Environmental risk perception (problem awareness) and pro-environmental behaviours
3. Coping with the effects of climate change

(1) Risk perception

- Risk is often defined as a combination of the probability of an adverse event and the magnitude of its consequences (Rayner & Cantor, 1987)

Subjective risk perception:

- Consequentialist perspective - the consequences of a decision alternative determine risk perception (an expected utility model) (e.g., Payne et al. 1993)
- The risk-as-feeling hypothesis - both cognitive evaluations of risks and feelings experienced when making the decision determine risk perception (Loewenstein et al. 2001)

(1) Factors explaining risk perception

1. Technical estimates of risk - the risk is perceived as more serious when the risk estimate is higher
2. Cognitive biases – the use of various heuristics e.g., availability when estimating probability (Tversky & Kahneman, 1974)
3. The psychometric paradigm – what characteristics of the hazard are related to how risky the hazard is perceived to be (e.g., dread, unknown, and exposure, Fischhoff et al. 1978)
4. Cultural theory (Douglas, 1978; Douglas & Wildavsky, 1982)- worldviews are important for how we respond to risks: egalitarians, individualists, hierarchists, and fatalists



(Sjöberg, 2000)

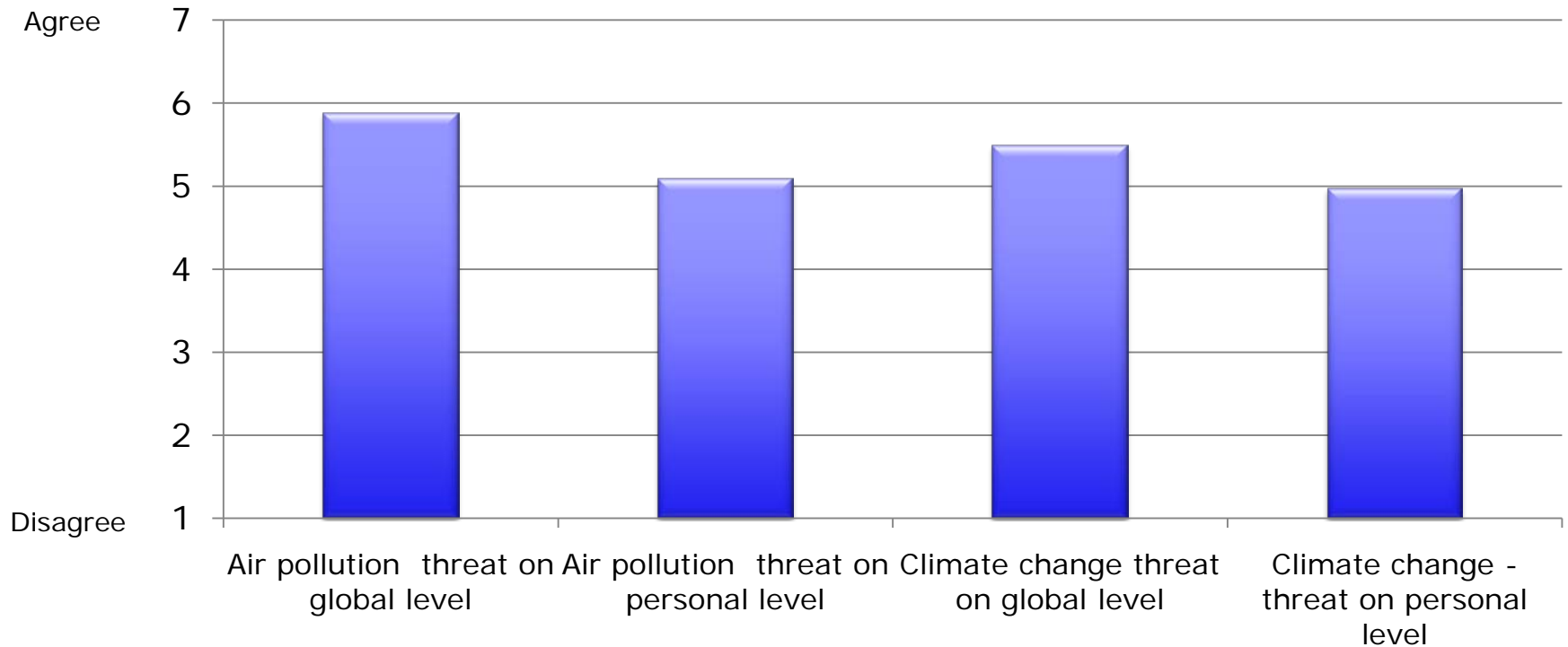
(1) Environmental risks

- Uncertain and have strongly delayed consequences, occurring at remote places to other people (Gattig & Hendrickx, 2007)
- Different types - Techno-human (e.g. pollution from cars), natural (e.g. earthquakes), and every day-life risks (e.g. noise) (Walsh-Daneshmandi & MacLachlan, 2000)
- Comparative optimism - People believe they are less likely to be affected by different environmental risks compared to others (Pahl et al. 2005; Costa-Font et al. 2009)
- Psychometric paradigm - Ecological impact, human benefits, knowledge or scientific understanding, and controllability are important for environmental risks (McDaniels et al. 1997)
- Cultural theory – People with egalitarian worldview have higher problem awareness compared to individualists (Poortinga et al., 2002)

(1) Climate change perceptions

- The public is confused about causes and effects of climate change (Etkin & Ho, 2007)
- Between 25 and 30 % in Denmark, Finland and Sweden were very worried about climate change in 2002 (EORG, 2002)
- Negative consequences (in particular for humans) (i.e., cognitive component) are important for climate change perceptions (Böhm & Pfister, 2001)
- There is concern about climate change in Europe and the US but of secondary importance compared to e.g., personal and social goals (Lorenzoni & Pidgeon, 2006)
- Climate change is perceived to be a more urgent concern to society compared to the individual personally (Lorenzoni & Pidgeon, 2006)

(1) Climate change versus air pollution

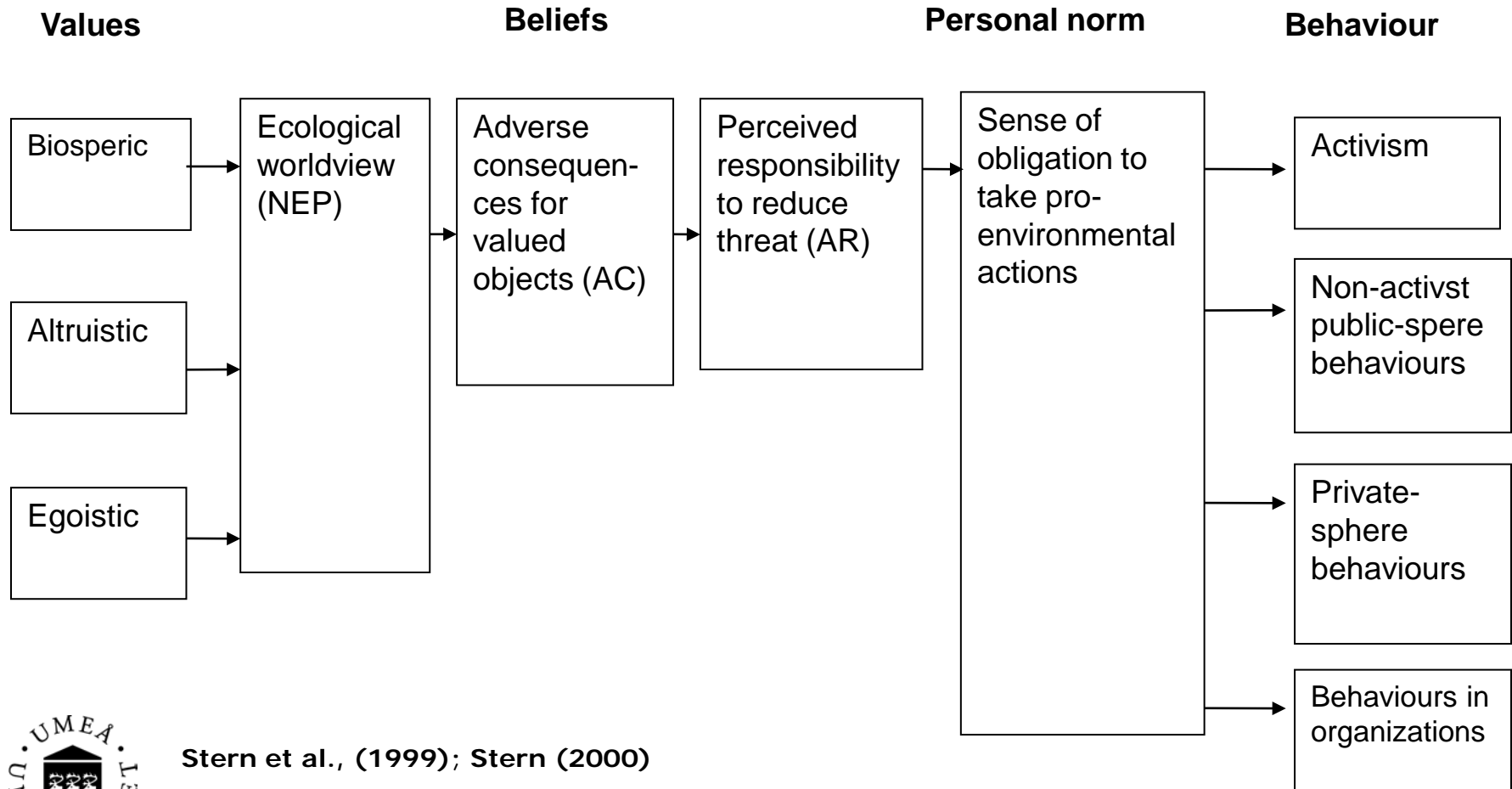


Questionnaire study of car owners in Växjö municipality 2007 (n = 880)

(2) Risk perception and behaviour

- Pro-environmental behaviours (Stern, 2000): environmental activism (e.g., active involvement in organizations, demonstrations), non-activist behaviours in the public sphere (membership in organizations, acceptance of policy), private sphere environmentalism (e.g., purchase, use and disposal), others (e.g., organizational behaviours)
- An indirect effect of risk perception (or problem awareness) on pro-environmental behaviour (e.g., the value belief norm theory (Stern et al., 1999), the theory of planned behaviour (Ajzen, 1991))

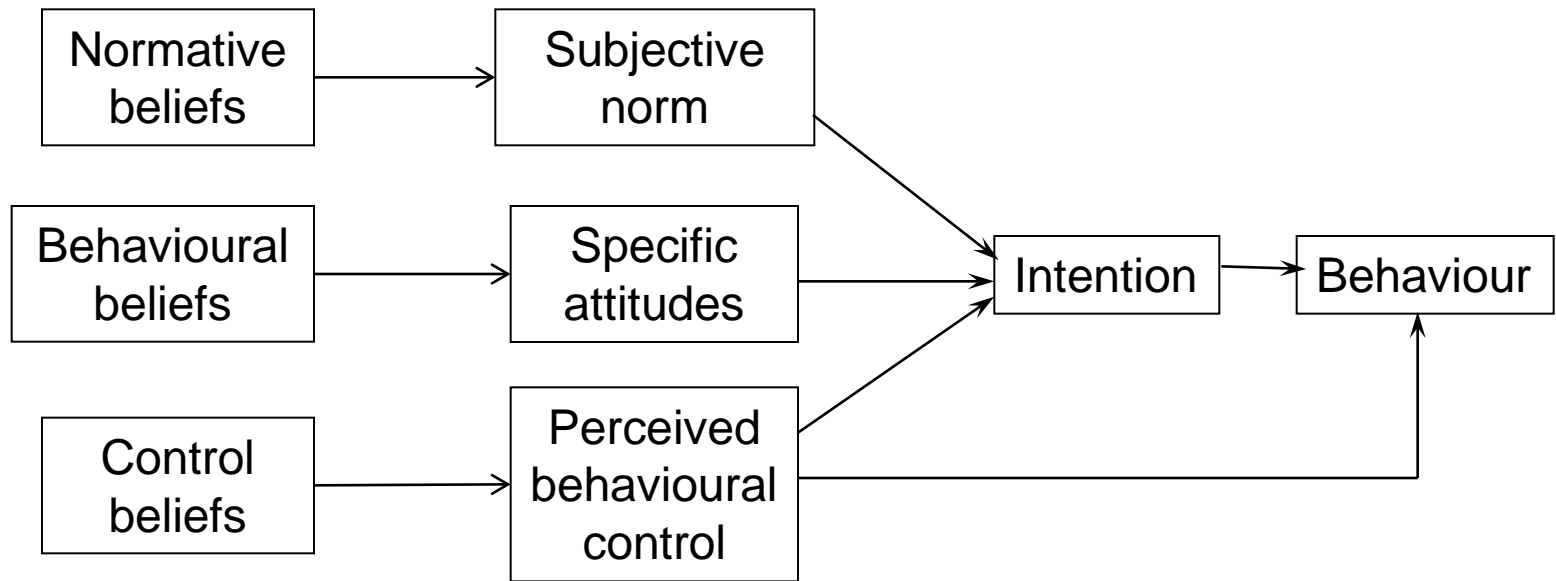
(2) Value-belief-norm theory of environmentalism (VBN)



Stern et al., (1999); Stern (2000)



(2) Theory of planned behavior (TPB)



(2) Factors important for pro-environmental behaviours

- Attitudinal factors (e.g., VBN-theory, TPB)
- Contextual factors (social and physical context)
- Personal capabilities (e.g., knowledge, time, money)
- Habits

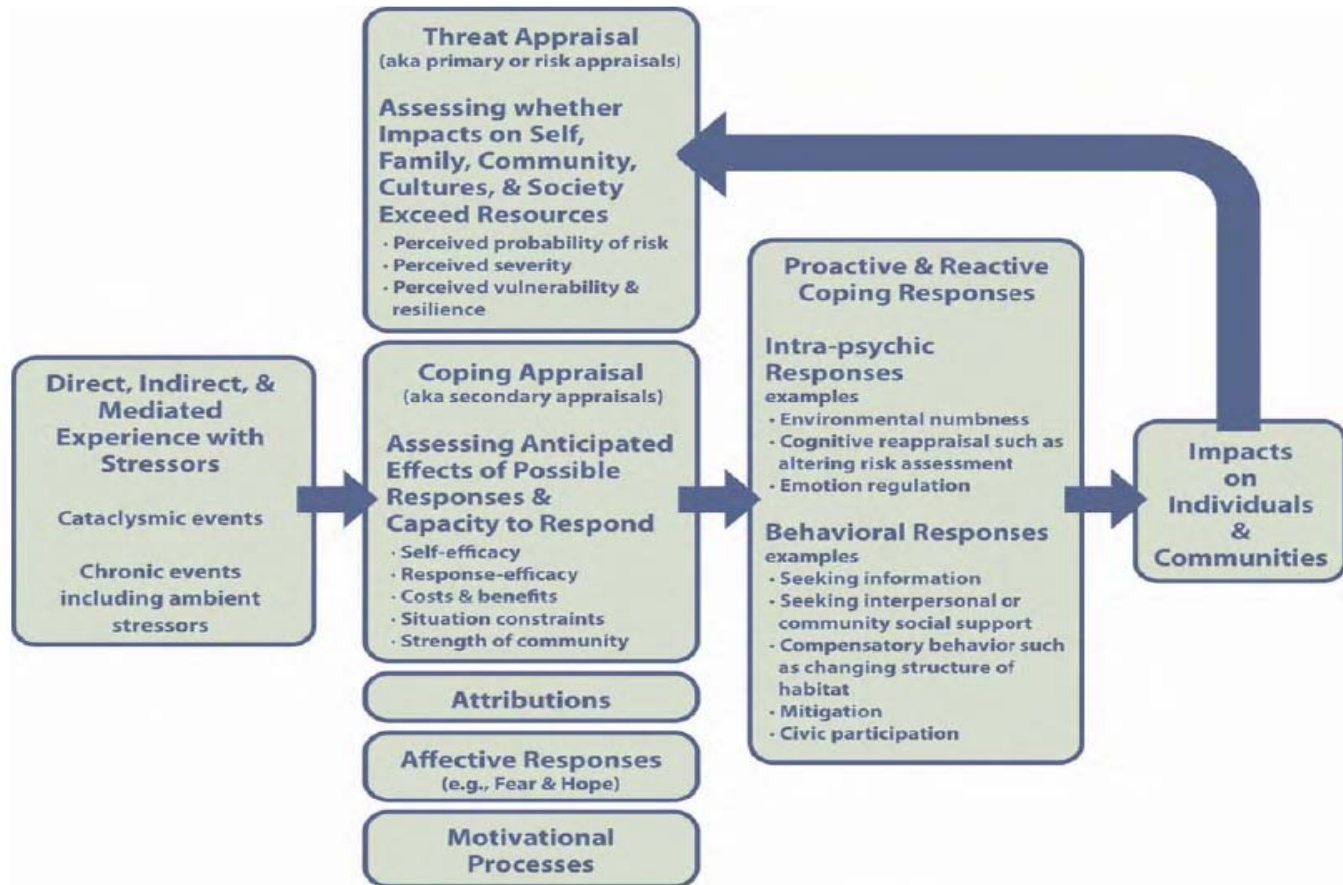


Stern (2000)

(3) Coping with the effects of climate change

- Climate change as an environmental stressor – discrete (cataclysmic events) or continuous
- Stressors lead to:
 1. Threat appraisals (evaluating threat and put in relation to resources)
 2. Coping appraisals (evaluations of coping strategies considering for example self-efficacy and response efficacy)
 3. Different cognitive, emotional and behavioural responses





Swim et al. (2010)



Figure 8: Psychological processes that influence coping with climate change.

