Love

Beauty

Restora-
tion

Relaxa-
tion

Savannah, Uganda by Rod Waddington_CC BY-SA 2.0

1. ENVIRONMENTAL AESTHETICS AND LANDSCAPE PREFERENCES

The experience of **beauty**

Less beautiful – less health benefits

Beauty

2 a) STRESS REDUCTION THEORY

Roger Ulrich

- **Immediate** response to nature
- Non-conscious
- Physiological reactions – **stress recovery**, relaxation
- The **savannah** – vegetation, trees, and water, no threats
- We are **prepared to react to nature** but not to built settings

Savannah by glennaro_CC BY-NC-ND 2.0

Relaxa-tion

THE SYSTEMS PROBLEM…

Environments encouraging “wrong” behaviour…

Urban forests can relieve us from a “trapped” feeling

GENTRIFICATION…

Green space → more expensive → do we help the poor?

Wolch JR, Byrne J, Newell JP. Urban green space, public health, and environmental justice: The challenge of making cities 'just green enough'. Landscape and Urban Planning. 2014;125(0):234-44.

COMMON SENSE

Knowledge is power

Power is impact

What is the best design for the best health?

Poor areas, poor health, poor green.

Developing countries.

The challenge and beauty of interdisciplinary research…

Oppenheimer park, E Cordova St

PRO-ENVIRONMENTAL BEHAVIOUR

January 24, 2017

What is pro-environmental behaviour?

In tune with nature by Kompania Piworaska_CC BY-NC-ND 2.0

- decreased use of motorised transport,
- recycling,
- choosing environmentally labelled products
- more vegetarian food.

FOUR TYPES (STERN, 2000)

- Environmental activism
  - “Have you ever contacted a government agency to get information or complain about an environmental problem?” Participated in environmental demonstration?

- Environmental citizenship
  - Do you donate money to environmental organisations? Point out to someone his/her unecological behavior?

- Policy support
  - Vote for a candidate who supports environmental issues. Be willing to pay higher taxes for environmental protection

- Private sphere behaviours
  - reusable containers, read on electronic devices rather than printing, active transport, switch off lights

WHY DOES IT MATTER?

> Current Issue > vol. 106 no. 44 > Thomas Dietz, 18452–18456, doi: 10.1073/pnas.0908738106

Household actions can provide a behavioral wedge to rapidly reduce US carbon emissions

Thomas Dietz[a], Gerald T. Gardner[b], Jonathan Gilligan[c], Paul C. Stern[d,1] and Michael P. Vandenbergh[e]

Author Affiliations

Edited by Elinor Ostrom, Indiana University, Bloomington, IN, and approved September 11, 2009 (received for review August 2, 2009)

Behavior change	Category	Potential emissions reduction (MtC)†	Behavioral plasticity (%)‡	RAER (MtC)§	RAER (%I/H)§
Weatherization	W	25.2	90	21.2	3.39
HVAC equipment	W	12.2	80	10.7	1.72
Low-flow showerheads	E	1.4	80	1.1	0.18
Efficient water heater	E	6.7	80	5.4	0.86
Appliances	E	14.7	80	11.7	1.87
Low rolling resistance tires	E	7.4	80	6.5	1.05
Fuel-efficient vehicle	E	56.3	50	31.4	5.02
Change HVAC air filters	M	8.7	30	3.7	0.59
Tune up AC	M	3.0	30	1.4	0.22
Routine auto maintenance	M	8.6	30	4.1	0.66
Laundry temperature	A	0.5	35	0.2	0.04
Water heater temperature	A	2.9	35	1.0	0.17
Standby electricity	D	9.2	35	3.2	0.52
Thermostat setbacks	D	10.1	35	4.5	0.71
Line drying	D	6.0	35	2.2	0.35
Driving behavior	D	24.1	25	7.7	1.23
Carpooling and trip-chaining	D	36.1	15	6.4	1.02

Toward the Integration of Meditation into Higher Education: A Review of Research

- Enhancement of cognitive and academic performance
- Management of academic-related stress
- Development of the “whole person”

Prepared for the Center for Contemplative Mind in Society

by

Shauna L. Shapiro

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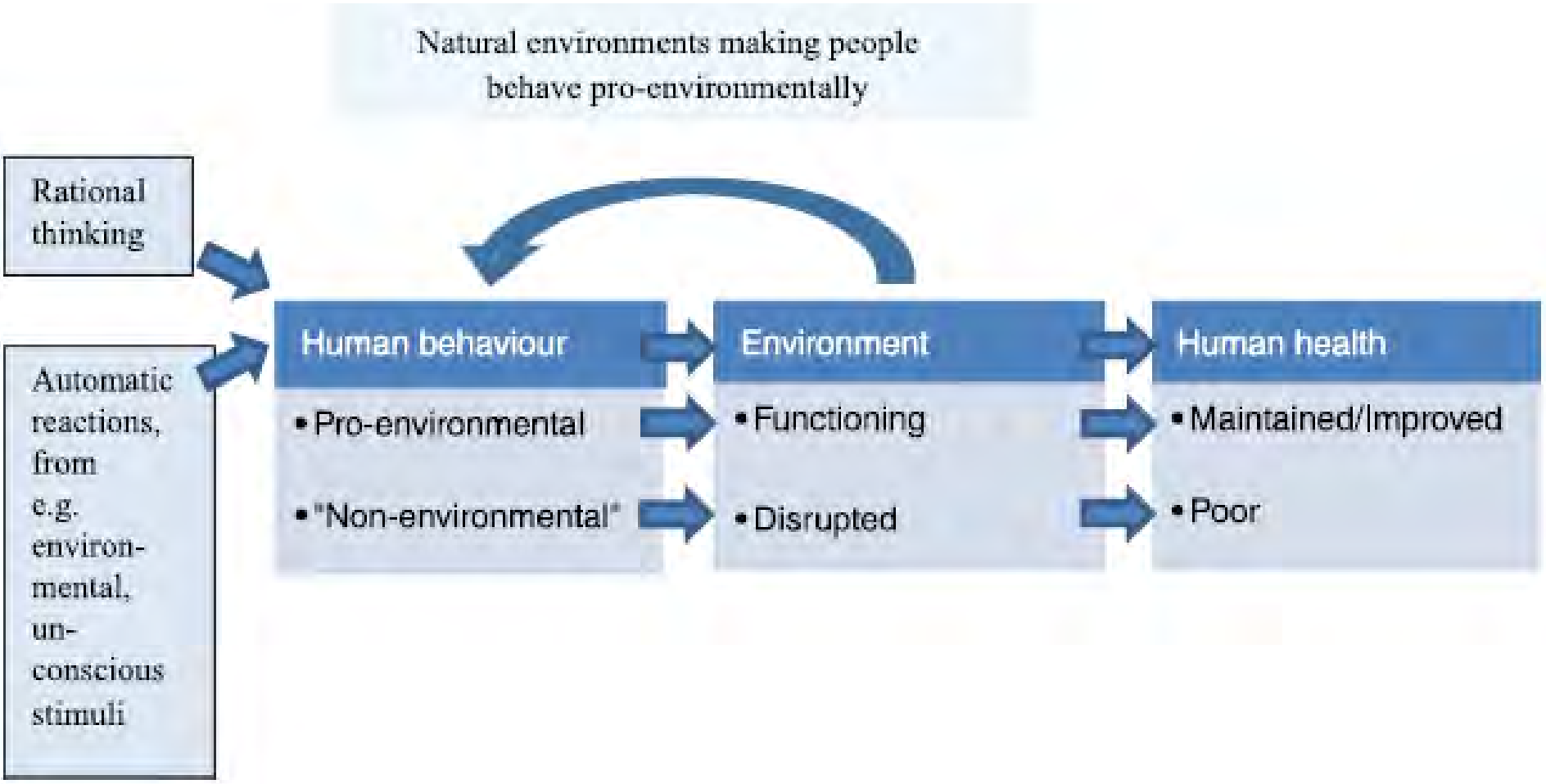
Natural environments making people behave pro-environmentally
Rational thinking
Automatic reactions, from e.g. environ-mental, un-conscious stimuli
Human behaviour
• Pro-environmental
• "Non-environmental"
Environment
• Functioning
• Disrupted
Human health
• Maintained/Improved
• Poor

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Cooperation is in our nature: Nature exposure may promote cooperative and environmentally sustainable behavior

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ABSTRACT

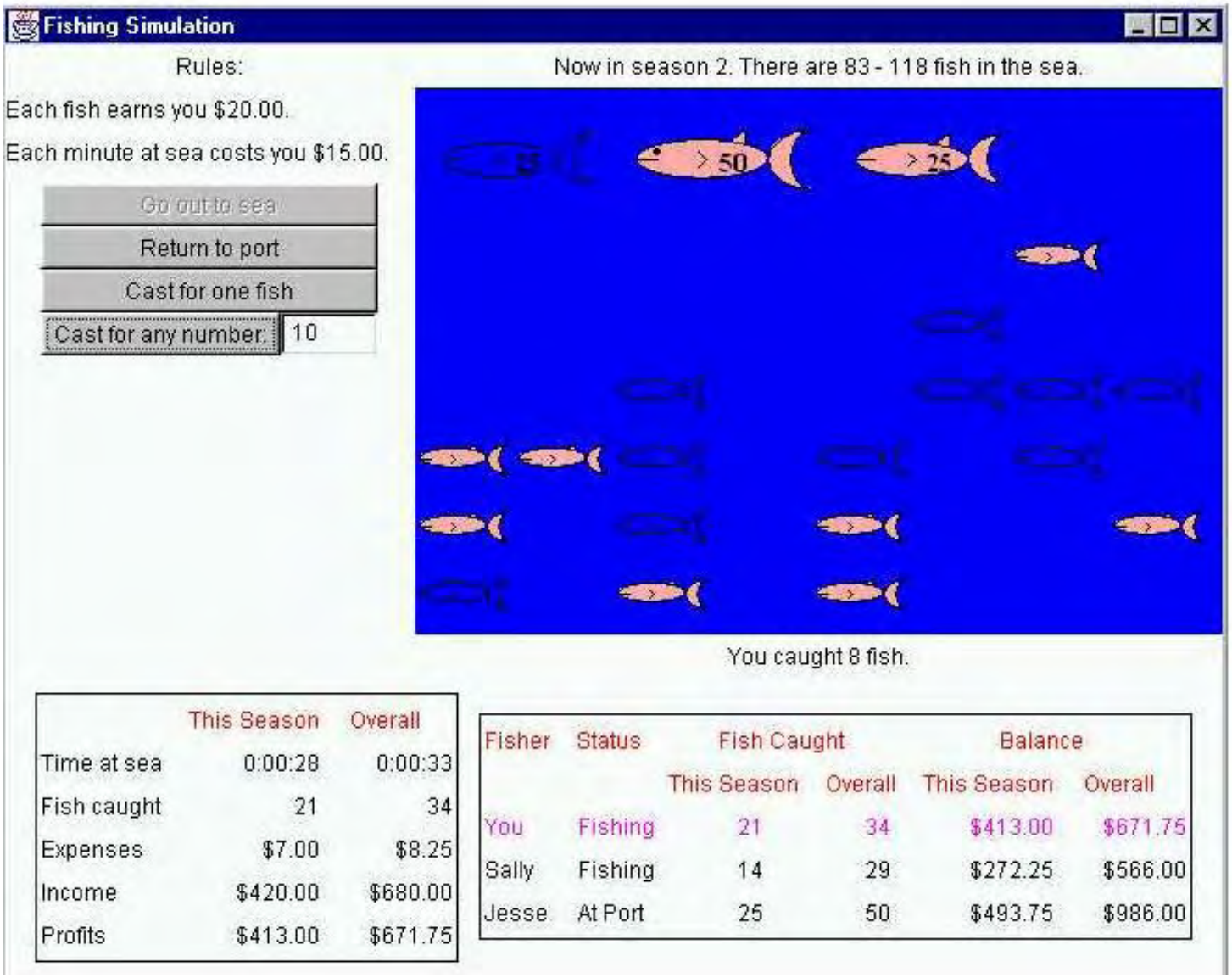
Theory and correlational research suggest that connecting with nature may facilitate prosocial and environmentally sustainable behaviors. In three studies we test causal direction with experimental manipulations of nature exposure and laboratory analogs of cooperative and sustainable behavior. Participants who watched a nature video harvested more cooperatively and sustainably in a fishing-themed commons dilemma, compared to participants who watched an architectural video (Study 1 and 2) or geometric shapes with an audio podcast about writing (Study 2). The effects were not due to mood, and this was corroborated in Study 3 where pleasantness and nature content were manipulated independently in a 2 × 2 design. Participants exposed to nature videos responded more cooperatively on a measure of social value orientation and indicated greater willingness to engage in environmentally sustainable behaviors. Collectively, results suggest that exposure to nature may increase cooperation, and, when considering environmental problems as social dilemmas, sustainable intentions and behavior.

Zelenski et al. 2015

60 students
https://youtu.be/c8aFcHFu8QM

60 students
https://youtu.be/TocRBJVeTho

COMMONS DILEMMA



Gifford & Gifford, 2000; http://web.uvic.ca/~rgifford/fish/

Planet Earth	Architecture walk
Fewer fish per season	More money
Commons pools that lasted more seasons	Short-term unsustainable strategy
By season 15, 28% of the oceans went extinct	50% of the oceans went extinct

“Across three studies, we found consistent evidence for the idea that exposure to nature can produce cooperative behavior, which was also sustainable behavior in the context of commons dilemmas”


Fern
Dell

INTRINSIC AND EXTRINSIC REWARDS

Intrinsic reward: “you can contribute to protecting the environment by unplugging electronic devices you don't use”

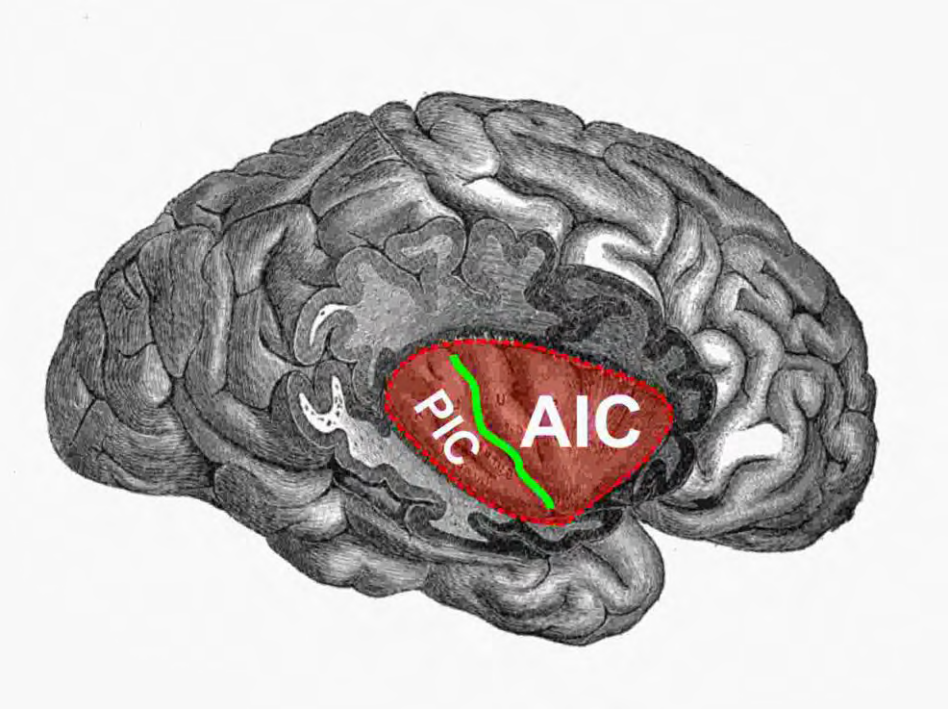
Extrinsic reward: “you save $43 annually by unplugging electronic devices you don't use”

INTRINSIC REWARD – "WARM GLOW"

- Psychological state affects thermal state

- Activation of insular cortex – affects temperature perception

- Also activated by highly rewarding outcomes and when making moral decisions



nature climate change

LETTERS

PUBLISHED ONLINE: 24 NOVEMBER 2014 | DOI: 10.1038/NCLIMATE2449

Acting green elicits a literal warm glow

Danny Taufik[1]*, Jan Willem Bolderdijk[2] and Linda Steg[1]

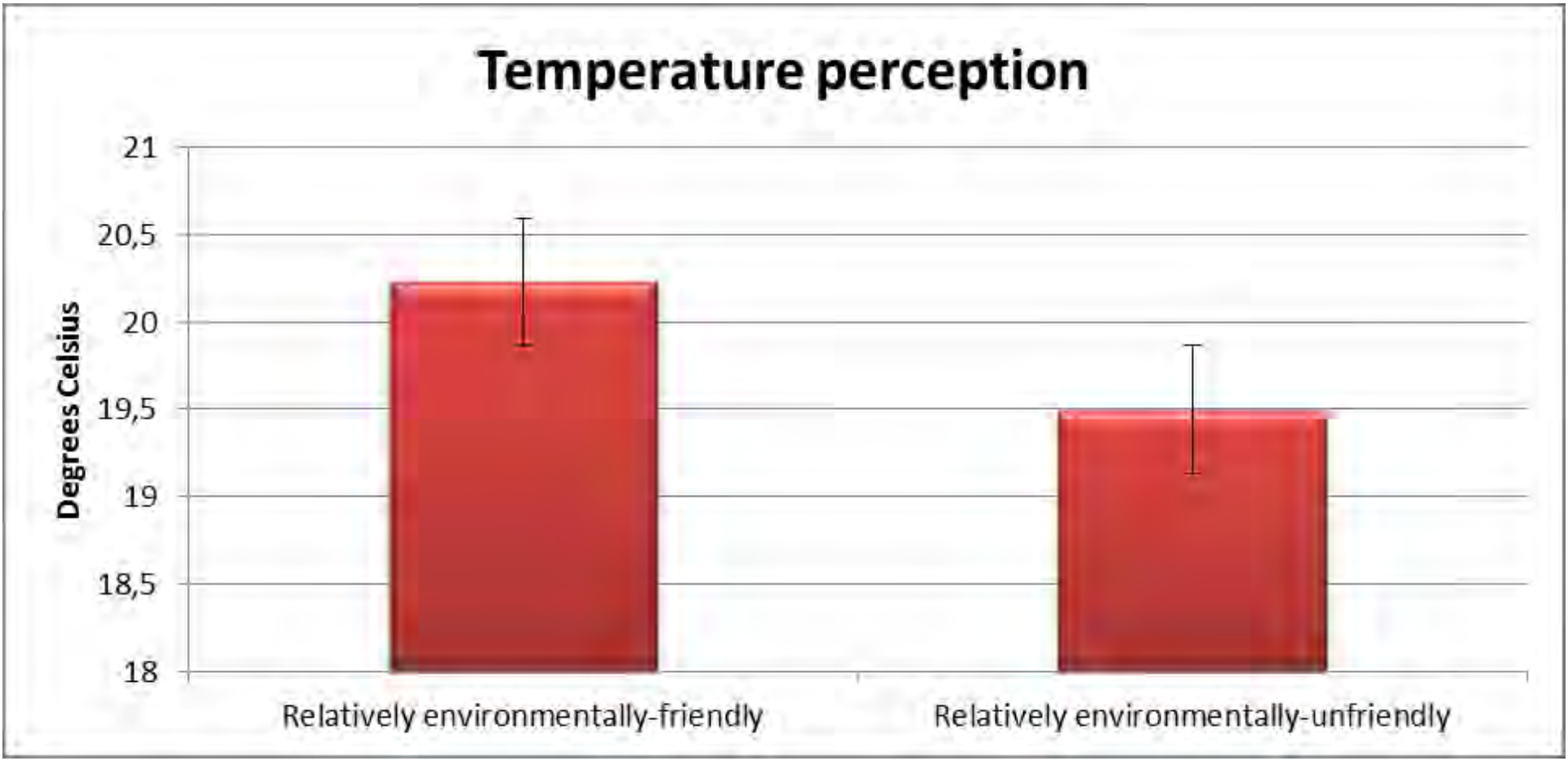
Environmental policies are often based on the assumption that people only act environmentally friendly if some extrinsic reward is implicated, usually money[1,2]. We argue that people might also be motivated by intrinsic rewards: doing the right thing (such as acting environmentally friendly) elicits and makes one feel good about oneself, thus being intrinsically rewarding as one's psychological state improves. Hence, if pro-environmental actions are indeed experienced as truly intrinsically rewarding, this should activate the insula and subsequently affect temperature perception (the literal warm glow). This suggests

CARBON FOOTPRINT CALCULATOR

Study participants received their carbon footprint and read that the lower their footprint is, the more pro-environmental their behaviour is.

Also learnt how environmental friendly in relation to the other participants.

“How many degrees Celsius do you think it is in this room at this moment?”




Urban forest
Pro-environmental
Warm glow/Helpers high

?

university of groningen / faculty of behavioural and social sciences / psychology

Study 1

Graffiti versus no graffiti
Flyer at handlebar of bicycles
How many people litter the flyer?

Keizer, Lindenberg, & Steg (2008)

Slide courtesy: Linda Steg

university of groningen / faculty of behavioural and social sciences / psychology

Study 1

No graffiti (N= 77) **33%**
Graffiti (N=77): **69%**

Keizer, Lindenberg, & Steg (2008)

Slide courtesy: Linda Steg

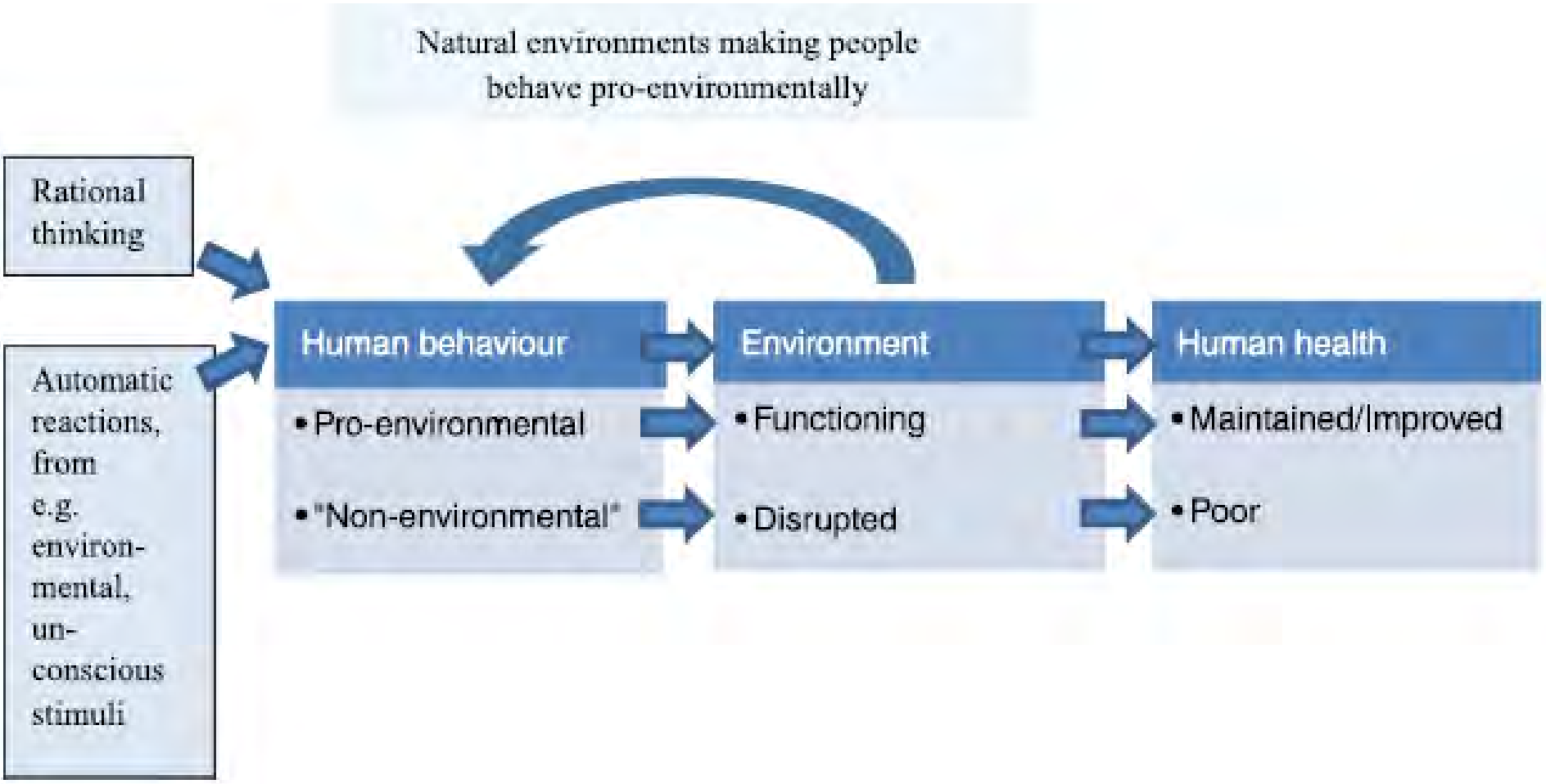
VALUE CONFLICT?

› Pro-environmental actions are often considered as costly, effortful or inconvenient. “Not worth it”

› Reduce value conflict

- § Make pro-environmental actions **beneficial**
- § Strengthen or activate biospheric **values**

Steg, Bolderdijk, Keizer, & Perlaviciute (2014); Steg (2015)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https://youtu.be/w7Q7wTt4IbA

Zhang JW, Piff PK, Iyer R, Koleva S, Keltner D. An occasion for unselfing: Beautiful nature leads to prosociality. Journal of Environmental Psychology. 2014;37:61-72.