



Climate Psychology

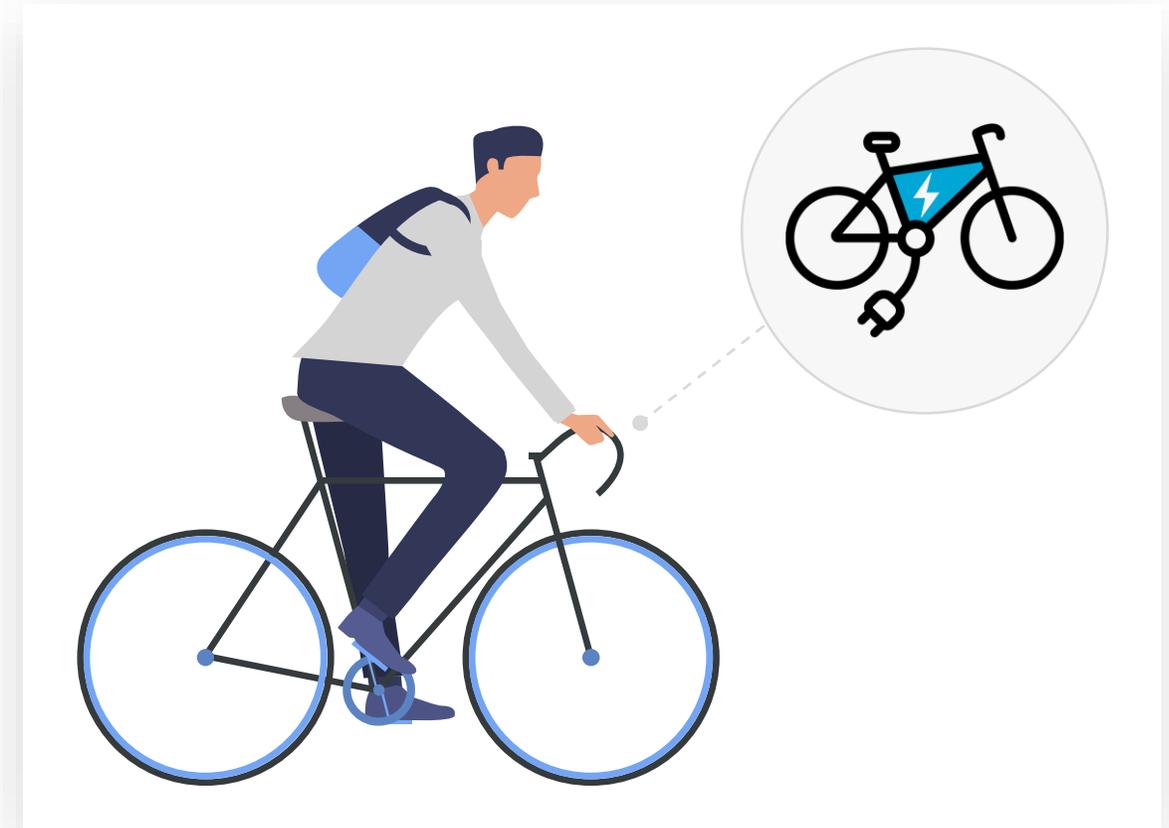
Gerdien de Vries

National Psychology Congress – Utrecht, the Netherlands

22 November 2019



Travel to campus the other way



TOMORROW BY BIKE?

Participate or not?



Knowledge



Positive Attitude



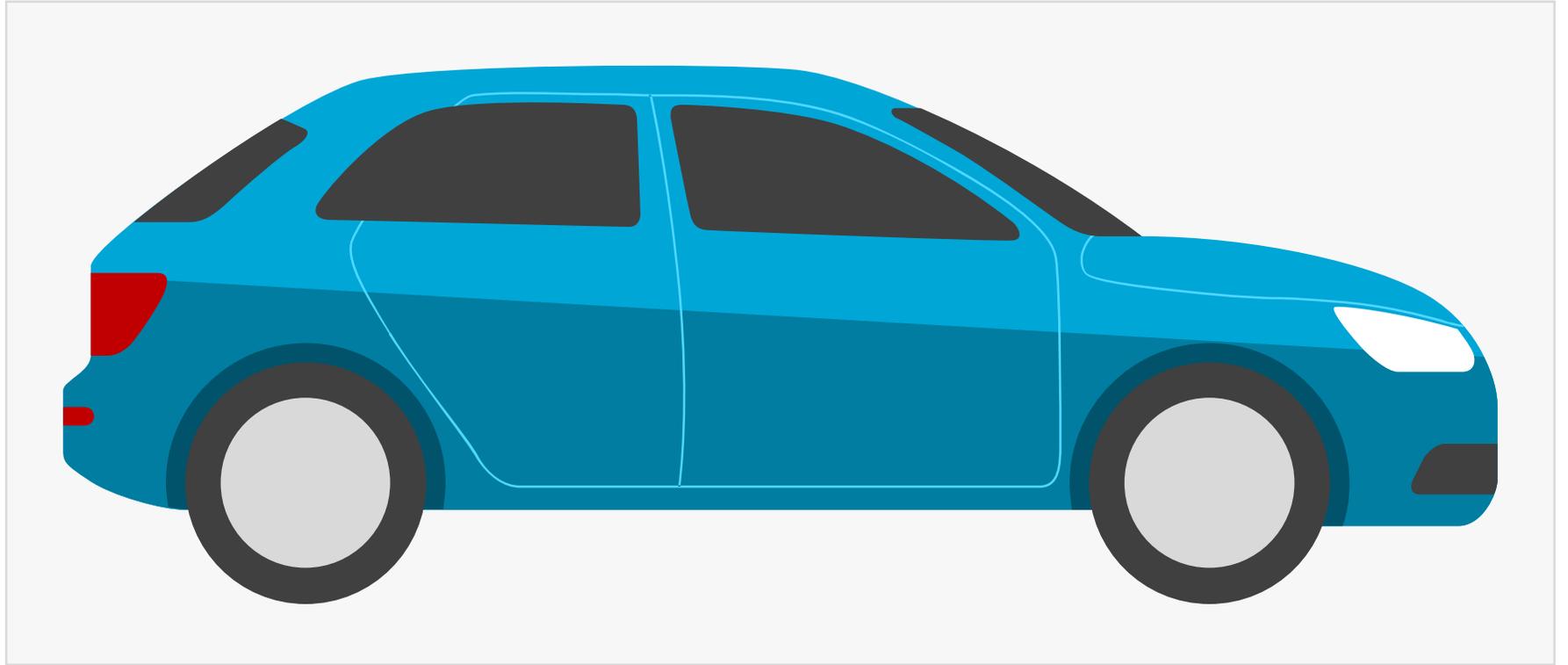
Behaviour!

HASSLE

+

HABIT

=



COGNITIVE DISSONANCE...

(Festinger, 1957)

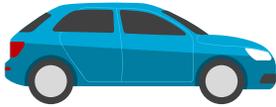
I am driving a car

But cars are bad for
the environment!

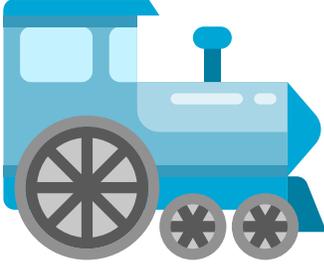




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In short....

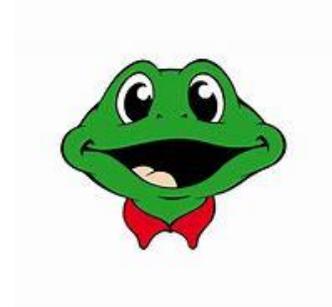
Psychology is important in climate issues



Who am I?

- Assistant Professor
Faculty of Technology, Policy, and Management
Delft University of Technology
- Studying psychological mechanisms underlying climate decisions (amongst others...)
- Designing and testing interventions that affect these decisions
- Teaching: Management, organisations, leadership, sustainability, psychology
- Car driver...

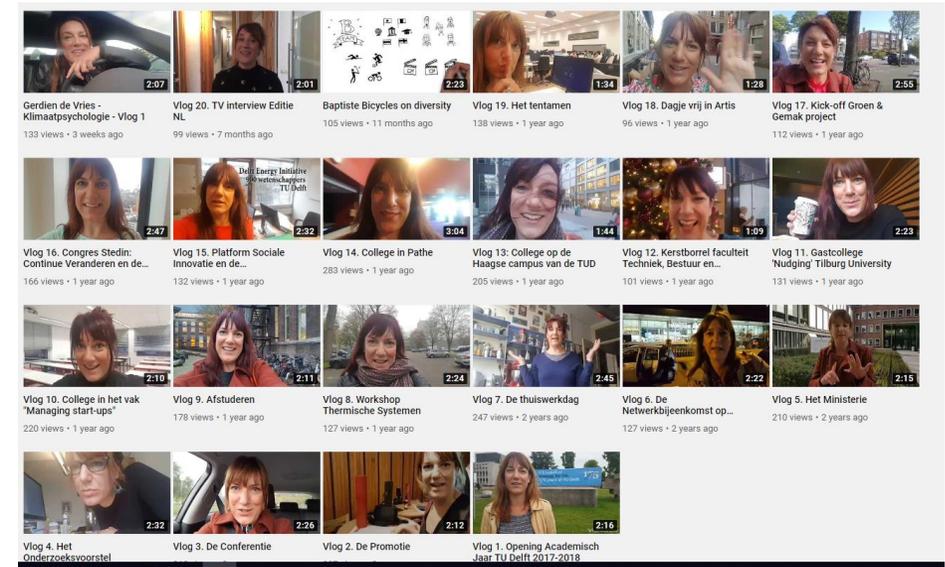
Career (aka...academic late-bloomer!)



- French, Theatre Sciences, Journalism, Public Relations
- Theatre Agency
- Pharmaceutical Company
- Amusement Park
- MPhil (Research Master) Social & Organizational Psychology (Leiden University, 2009)
- PhD Behavioural Sciences (Leiden University, 2014: *Pitfalls CCS communication*)
- TU Delft (researcher, tenure track, UTQ)

Valorisation

- Personal mission: Disseminate science to larger public
- How?
 - Vlogs
 - Blogs
 - Interviews
 - Presentations
- V-Index?



Why is climate psychology important?

Background



Climate Change





Goals of Environmental Policies

- Reduce carbon footprint
- Accept (new) energy technologies
- Adapt to climate change effects





“Classic” barriers to green behaviour

Financial barriers

- e.g., Solar panels are expensive to purchase

Technological barriers

- e.g., Apartments lack a roof for solar panels

Institutional barriers

- e.g., “Monument” homeowners may not place solar panels

Lately, more attention to psychology...

- [EU report “Behavioural Insights applied to policy” \(2016\)](#)
- [WRR report “Met kennis van gedrag beleid maken” \(2014\)](#)
- The book “Nudge” (Sunstein & Thaler)
- Development of governmental Behavioural Insights Teams (“BIT or Nudge Teams”)
- Behavioural Public Administration (scientific field)
- International Energy Agency: mapping application behavioural insights in policy (Dutch expert)



Many Psychological Barriers

...help explain why a person agrees that climate change and environmental sustainability are important problems, yet does not take enough action to effectively deal with those problems

Robert Gifford, *Dragons of inaction* (2011)



Irrational?

Economy:

- “Humans are irrational!”

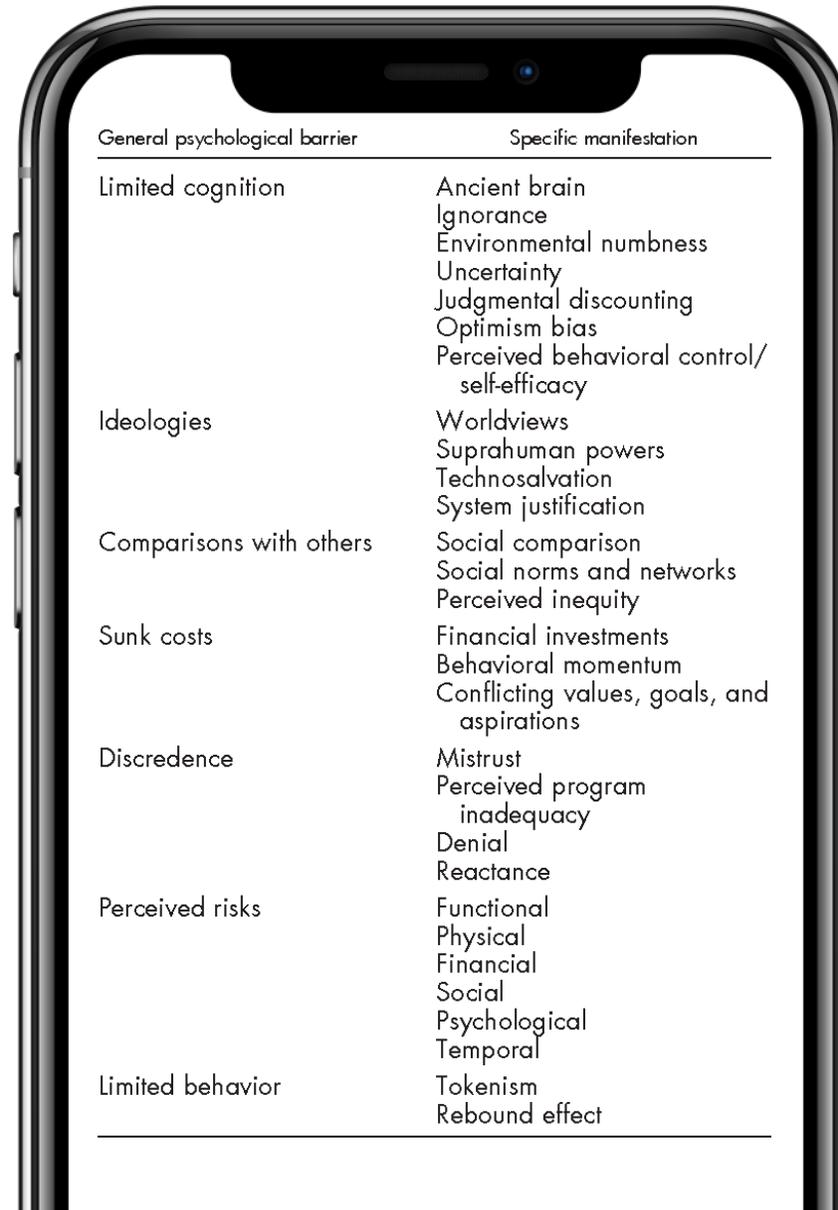
Public Administration:

- “Humans have a bounded rationality!”

Psychology:

- “Humans are functional!”

Dragons of Inaction



General psychological barrier	Specific manifestation
Limited cognition	Ancient brain Ignorance Environmental numbness Uncertainty Judgmental discounting Optimism bias Perceived behavioral control/ self-efficacy
Ideologies	Worldviews Suprahuman powers Technosalvation System justification
Comparisons with others	Social comparison Social norms and networks Perceived inequity
Sunk costs	Financial investments Behavioral momentum Conflicting values, goals, and aspirations
Discredence	Mistrust Perceived program inadequacy Denial Reactance
Perceived risks	Functional Physical Financial Social Psychological Temporal
Limited behavior	Tokenism Rebound effect

Source: <https://www.dragonsofinaction.com/>



In short....

Psychological barriers hinder climate action

Studying green behaviour

Research



Societal relevance

Understanding human decision-making can provide insights on how to design more effective policies on sustainable consumption and production

UN Environment, 2017

Ultimate goal:
Mitigate (impact) of climate change



Scientific Relevance

- Psychologists have expertise on human brain, reflexes, cognition, emotions, perceptions, expectations, personality, values etcetera
- Psychologists have a specific tool box of research instruments including surveys and experiments
- Psychologists are well-trained in statistical analyses



What do we investigate then?

- Reduction of carbon footprint
- Acceptance of energy/sustainable technologies and policies
- Adaptation to climate change effects

**Research level:
BSc, MSc, PhD and up**



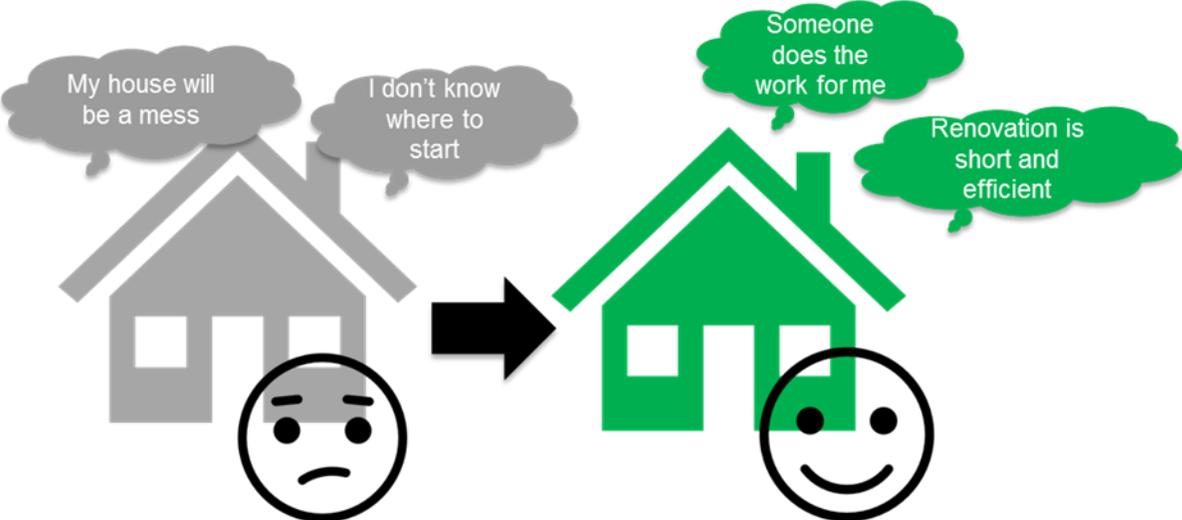
Research Projects: Reduce

- The **hassle factor** as a psychological barrier to a green home (
- Schools as energy-hubs in neighbourhoods
- Role of knowledge in reducing vampire power
- Investigating the purchase of ugly foods
- Factors in renting sustainable student housing
- Identity framing effects on sustainability
- Design tricks for green framing
- Separating garbage in work and public spaces
- Sustainable buildings and construction in Suriname
- Sustainable renovations at schools

Schools as Energyhubs



Green and Easy





Research Projects: Accept

- Facts or feelings? Communication about high-voltage power lines
- Pitfalls in communication about CO2 capture/transport/storage
- Public acceptability of hydrogen fuel stations
- Studying geothermal energy in Indonesia
- Acceptance of sustainable technologies at the work floor
- Adoption of electric bicycles for daily commute
- Public support for Tradable Peak Credits to reduce congestion



Over Baptiste Oil & Gas

Technologie

CO2 Opslag

Innovatie

Media

Vacatures

Producten & Diensten



BO&G investeert in de ontwikkeling van CO2 afvang- en opslagtechnologie omdat dit past in ons beleid van maatschappelijk verantwoord ondernemen. Als we nu namelijk niet investeren in deze technologie, dan zal de hoeveelheid CO2 in de atmosfeer blijven toenemen, waardoor de gemiddelde temperatuur op aarde steeds hoger wordt. Dit heeft allerlei negatieve gevolgen voor mens en natuur, zoals verstoring van huidige ecosystemen, sterfte van sommige plant- en diersoorten, en stijging van de zeespiegel met alle gevolgen van dien. Door het op grote schaal in zetten van CO2 afvang- en opslagtechnologie komt er veel minder CO2 in de lucht, waardoor deze milieuproblemen voorkomen kunnen worden.

Kortom, wij investeren in de ontwikkeling van CO2 afvang- en opslagtechnologie vanwege het milieu (maatschappelijk verantwoord ondernemen).





Research Projects: Adapt

- Reducing the hassle-factor in green home investments
- Not in my backyard: Bridging the intention-behavior gap of greening domestic gardens with science-based nudges



Doe mee met de andere buurtbewoners om het Noorderkwartier groener te maken

Win een groene tuin.
Stuur voor **dinsdag 19 juni 12:00** via de website gagoed.nl een foto van uw huidige tuin en deel je motivatie om de rest van de buurt te inspireren. Kijk op de site voor meer informatie.



Doe mee en vergroen je tuin. Op deze manier maak jij Leiden groener & gezonder.

Win een groene tuin.
Stuur voor **dinsdag 19 juni 12:00** via de website gagoed.nl een foto van uw huidige tuin en deel je motivatie om de rest van de buurt te inspireren. Kijk op de site voor meer informatie.



Doe mee met de tuinen wedstrijd en maak kans op een tuin metamorphose

Win een groene tuin.
Stuur voor **dinsdag 19 juni 12:00** via de website gagoed.nl een foto van uw huidige tuin en deel je motivatie om de rest van de buurt te inspireren. Kijk op de site voor meer informatie.



Psychology enhances success of environmental policies?

Interventions



Policy Formation

**Behaviourally-
aligned**

(hindsight)

**Behaviourally-
informed**

(theoretical)

**Behaviourally-
tested**

(assessed)

EU report “Behavioral Insights 2016”



Policy Implementation

- Subsidies (subsidies are difficult to apply, ease it up)
- Education (simple, relevant, balanced message, social norms, call to action)
- Facilitation (remove hassle-factor)

All benefit from psychology!

Ethics



Ethics

“Design interventions aimed at overcoming people’s stable cognitive biases by exploiting them in such a way as to steer their decisions towards the choices they themselves would make if they were rational”

Rebonato, 2012



Ethical Research Questions

- Are behavioural interventions perceived as manipulation or facilitation?
- What is the role of the “intervener” (e.g., Shell, Greenpeace or national government)
- Should interventions be transparent or are they less effective then?
- Should there always be an opt-out?
- What is well-being? Who decides about that?

Questions? Ask them now...

or later...



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@GerdienDeVries



Gerdien de Vries, PhD (see also there for publications!)



Gerdien de Vries



<https://www.tudelft.nl/en/socialinnovation>