Nature and cycling: a literature review

Presentation by

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RGS PG Midterm

25th April 2024

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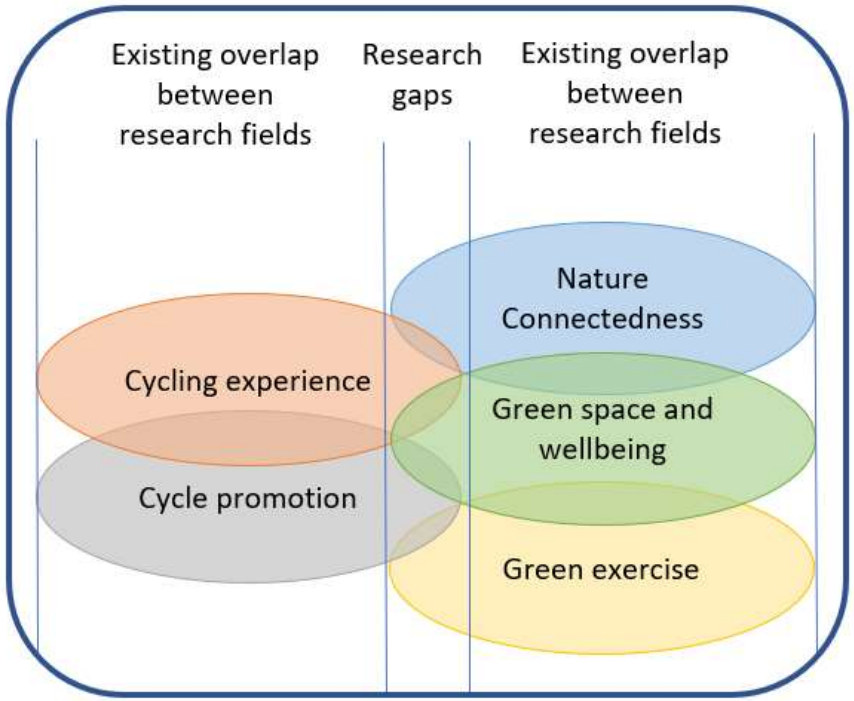
Centre for Transport & Society

Context and objectives

Cycling and nature connection both offer benefits for human/planetary wellbeing

But what role does nature play in cycling experiences?

Is it a factor in cycling decisions and actions?



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Review method

Search strategy (UWE Library Search):

- International/adults/2000 onwards/all study designs

Search terms: Cycling experience AND nature

1000+ results plus snowballing

Title/abstract screening

41 included papers

Search terms: Cycling AND environmental determinants AND nature

100+ results plus snowballing

Title/abstract screening

40 included papers

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Findings: cycling experience

Nature influences cycling experiences by:

- Enhancing enjoyment
- Increasing wellbeing
- Motivating cycling
- Influencing route preference and choice
- Nature connection and connectedness
- Contributing to desirable states or experiences

Specific natural features can be negative as well as positive (e.g., darkness, weather, topography)

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Findings: cycling experience

Nature offers some of the **most valued** and **motivating** aspects of cycling experiences

Unexpected by planners (Marquart *et al.*, 2020)

Quantifying the importance of nature relative to other factors: mixed results

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Nature connectedness

- Feeling part of nature → doing more to protect it
- Engagement over passivity, connection over contact
- 5 pathways (Lumber *et al.*, 2017)

Resources available:

findingnature.org.uk/resources

(Nature Connectedness Research Group, 2022)

Nature connectedness and cycling

Six studies explicitly mention connecting with nature

Further studies describe experiences that evoke the pathways:

- **Sensory contact** w/natural surroundings (Bell, 2017)
- Appreciating the **beauty** of small urban parks on cyclists' commutes (Stefansdottir, 2014)

Particular affordances of cycling, e.g., embodiment, close immersion, variety

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Findings: cycling outcomes

- Vegetation (trees and plants)
- Trees (street trees, forest/woodland, tree cover)
- Parks (parkland near homes or cycle routes)
- Water (rivers, lakes and coast)
- Subjective vegetation
- Pleasant natural views and surroundings

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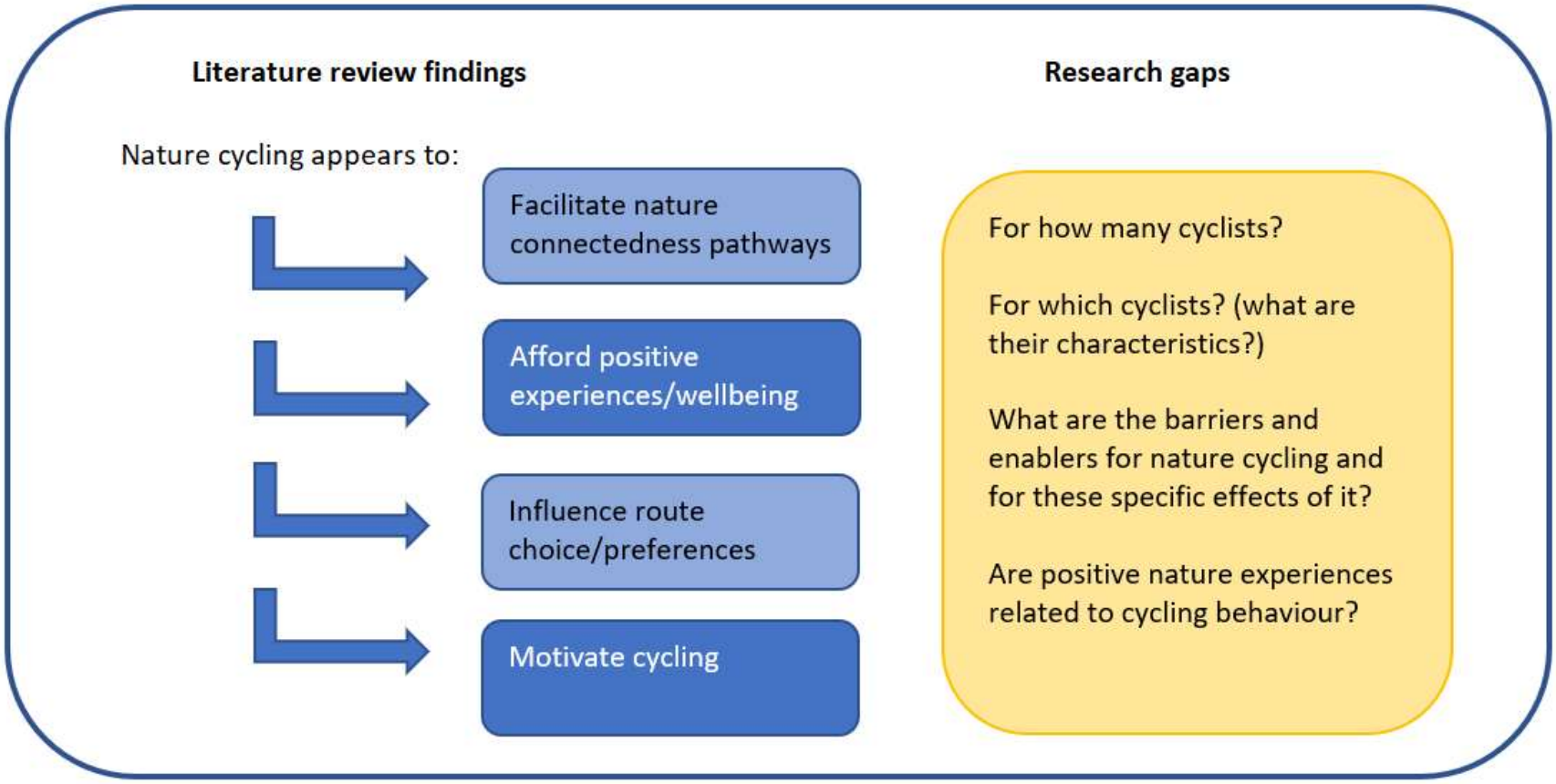
Exposure/ Outcome	Vegetation	Trees	Nearby parks	Nearby water	Subj. veg.	Pleasant views
Likelihood of utility cycling or no. of trips	+ (near workplace) 0 0 (near home/on route) -	+ (low education level only) - -	+ (Ghent, Aarhus and Seattle only) 0 (all sampled cities) -	+ 0 0	+	+
Distance/time cycled	+ (amount) + (quality, minor rds) 0 0 - (quality of)	-	0 (park, natural and agricultural land use)	0 0		
Route preference and choice	+ + (leisure stronger) 0 (route knowledge) - (on-the-fly)	+	- (park land use)	+ -	+ + +	+ (open) + (beauty) + (beauty)
Cycling comfort	+ (SR)	- (SR)(dense)			+ (SR)	+ (SR)
Active travel (incl. walking)	+ (quality) 0 0 (commuting)	+				
Mode choice (cycle over driving)	+ (elderly) 0 (non-elderly) - (route zones)		- -			
Unclear outcome	+ (SR) + (SR)	+ (SR)				
Crash frequency	+					

Conclusion



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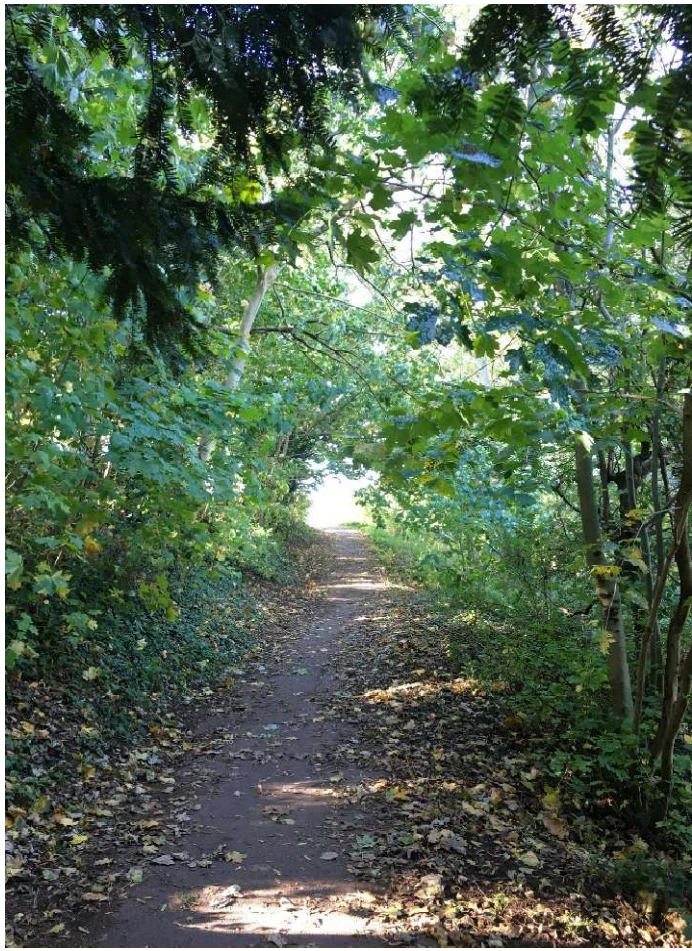
Implications for the project:

- Attend to context
- Quantify these experiences and explore further

And beyond:

- Nature can be part of cycling experiences
- Potential of NC pathways
- Consideration of context and measurement in research design



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Thank you

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Included papers I

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