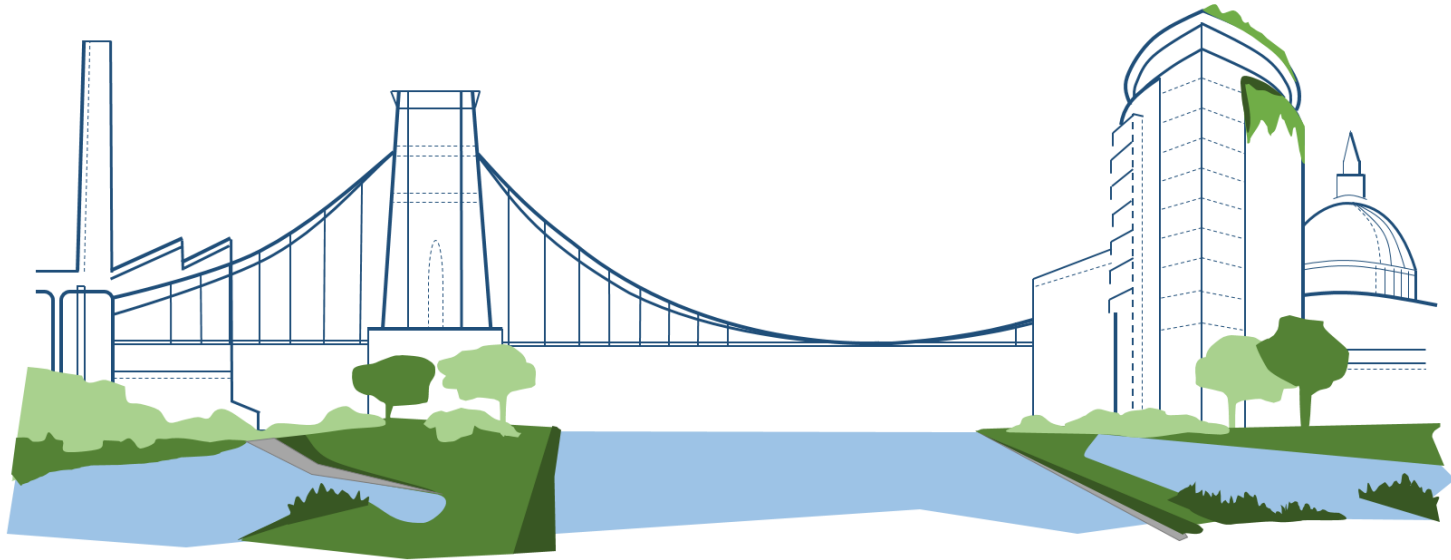


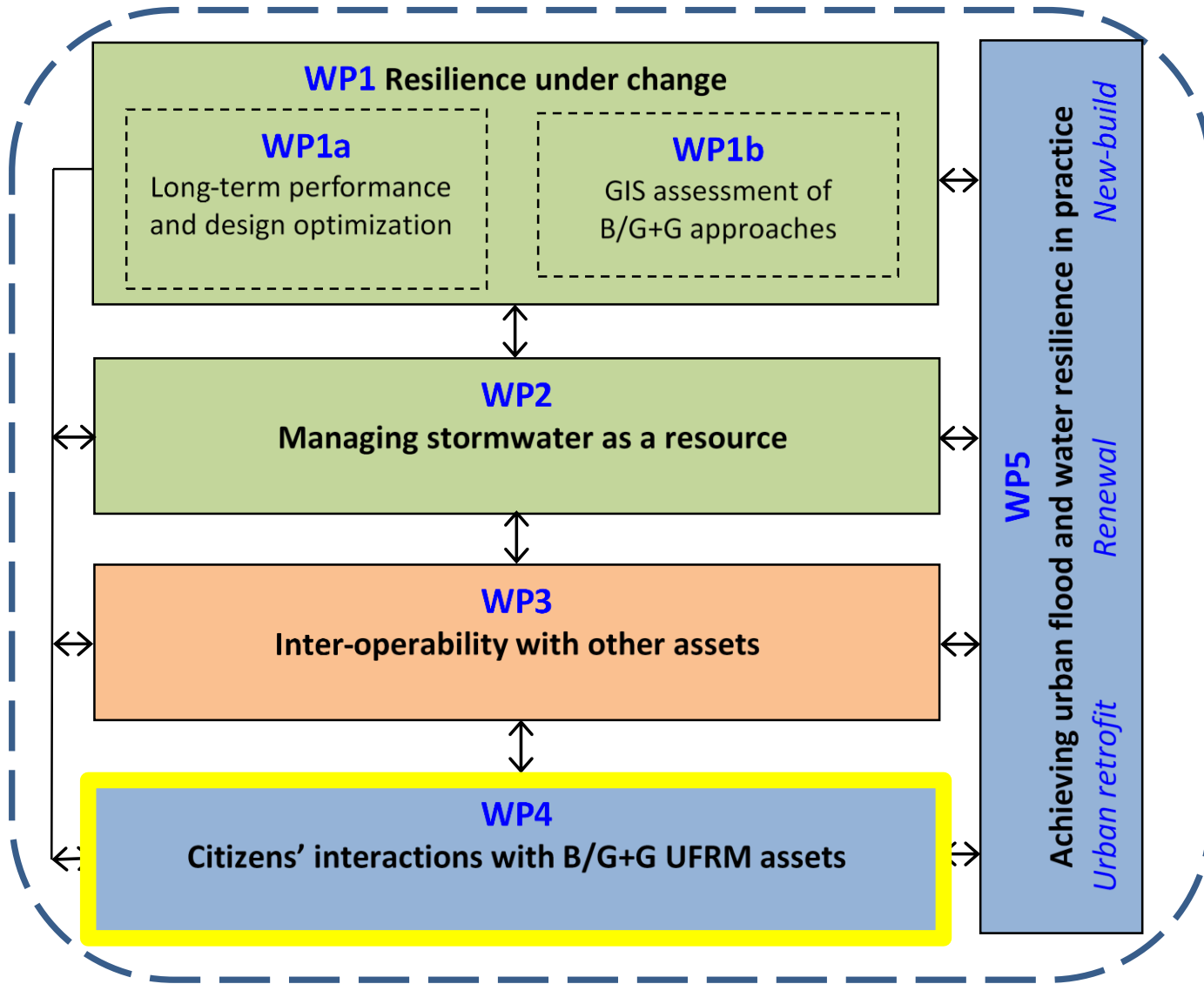
Revealing hidden perceptions of SuDS through Implicit Association Tests

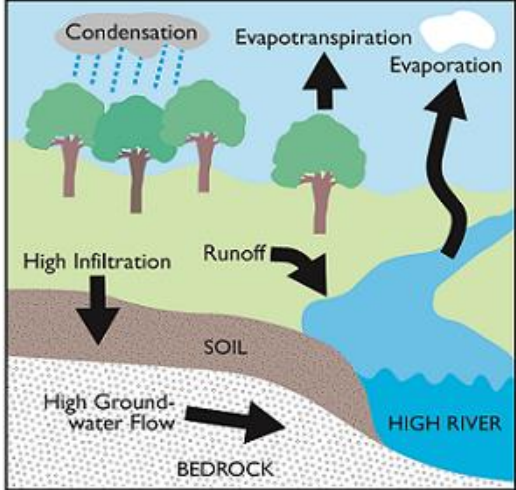
Emily O'Donnell

University of Nottingham
Emily.O'Donnell@Nottingham.ac.uk



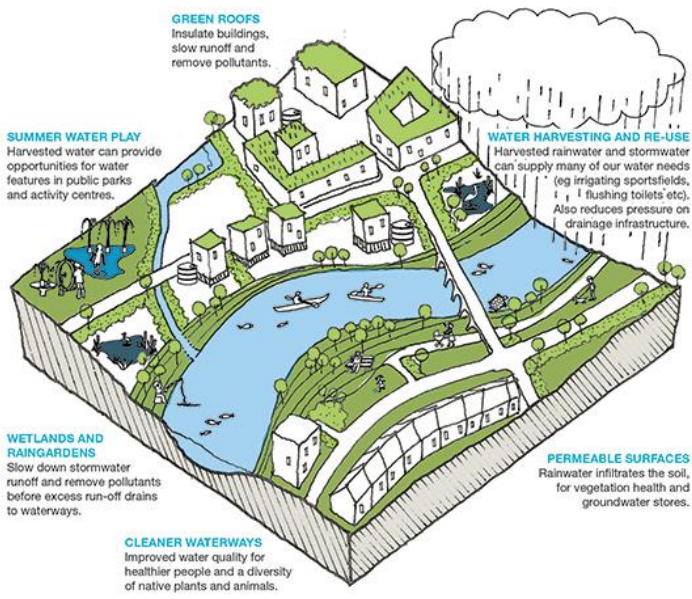
www.urbanfloodresilience.ac.uk  @bluegreencities





BLUE- GREEN

Water Sensitive Urban Design



海绵城市 Sponge City

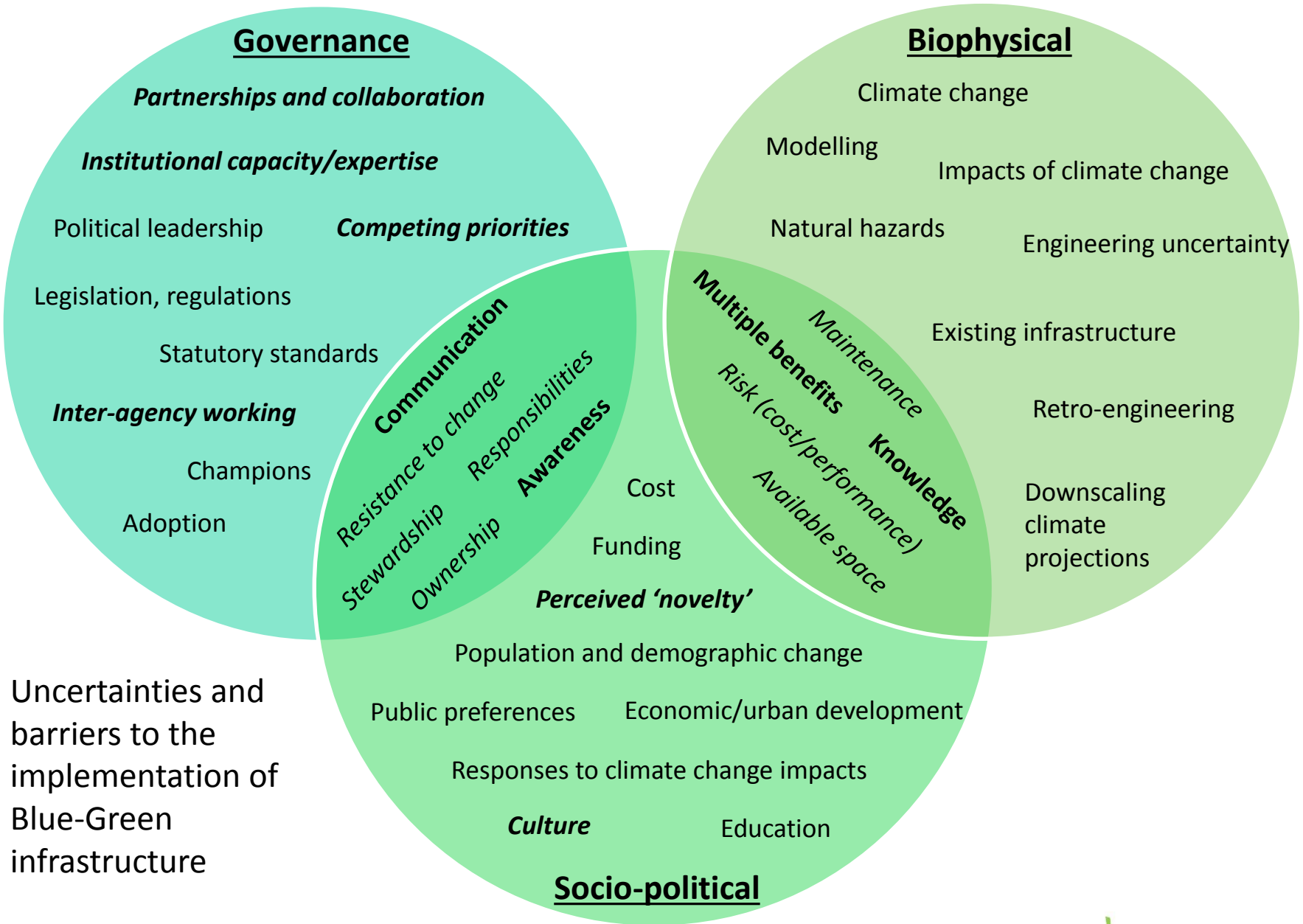
海绵城市是指城市能够像海绵一样，在适应环境变化和应对自然灾害等方面具有良好的“弹性”，下雨时吸水、蓄水、渗水、净水，需要时将蓄存的水“释放”或加以利用。



The challenges

- Socio-political barriers typically exert the strongest negative influence on widespread implementation of (blue-green) SuDS





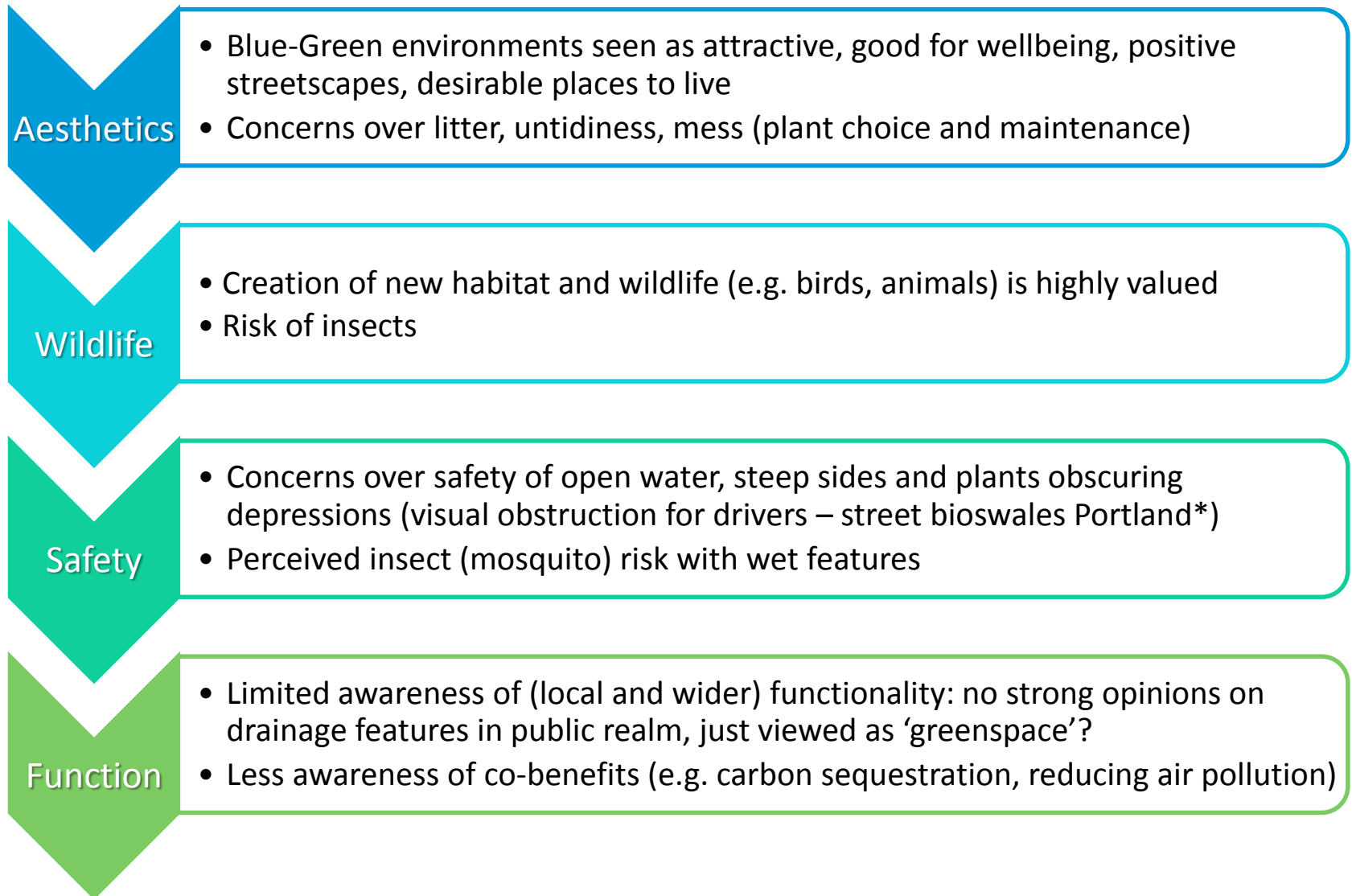
Uncertainties and barriers to the implementation of Blue-Green infrastructure

The challenges

- Socio-political barriers typically exert the strongest negative influence on widespread implementation of (blue-green) SuDS
- SuDS are often highly visible (“novel?”) interventions that require support from residents and local Government to be effectively implemented and maintained
- Positive public perceptions are key to generating greater levels of awareness, acceptance, value and stewardship
- Perceptions of residents living in close proximity (and wider?) to SuDS are poorly understood



Public perceptions of SuDS: Typically evaluated by explicit (self-report) measures e.g. questionnaires, Likert scale tests, feeling thermometers, interviews



*Everett et al., 2018. Journal of Flood Risk Management

Interactive poll 1: Blue-green vs. grey



Source: https://www.susdrain.org/delivering-suds/using-suds/suds-components/retention_and_detention/retention_ponds.html



Source: <https://www.portlandoregon.gov/bes/article/201850>

Go to www.slido.com and enter the event code #3274

Interactive poll 2: greenspace with SuDS vs. greenspace without SuDS



Interactive poll 3: which do you think is more attractive?
greenspace with SuDS vs. greenspace without SuDS

Advantages of implicit measures

Implicit Association Tests can help reveal how people feel about SuDS, moving beyond stated preferences and improving our understanding of implicit and explicit perceptions

Explicit measures	Implicit measures
<ul style="list-style-type: none">• Deliberate• Conscious• Introspective• Self-report• Assumes an individual knows and can articulate their beliefs• Influenced by external factors• Potential bias (social desirability, self-enhancement, self-ignorance), purposefully or inadvertently• N/A	<ul style="list-style-type: none">• Automatic• Subconscious• Associative• Reaction time (response latency)• Not dependent on participants' awareness of the strength of associations• Not affected by external influences• <u>Less bias, hard to 'fake' results</u> • Reaction times can be affected by age, understanding of images and words (target concepts), external distractions

Implicit Association Test (IATs): method

Comparing reaction times to different pairings of **target-concept** (greenspace with SuDS vs. greenspace without SuDS) and **attribute** (positive and negative words) stimuli presented on a computer screen (5 blocks, 2 tests)

SuDS

(Press 'E' key)

No SuDS

(Press 'I' key)



Block 1. Initial target-concept discrimination

Positive <i>(Press 'E' key)</i>	Negative <i>(Press 'I' key)</i>
Beautiful	

Block 2. Evaluative attribute discrimination

Positive / SuDS

(Press 'E' key)

Negative / No-SuDS

(Press 'I' key)



Block 3. Initial combined task

Negative / No-SuDS

(Press 'E' key)

Positive / SuDS

(Press 'I' key)

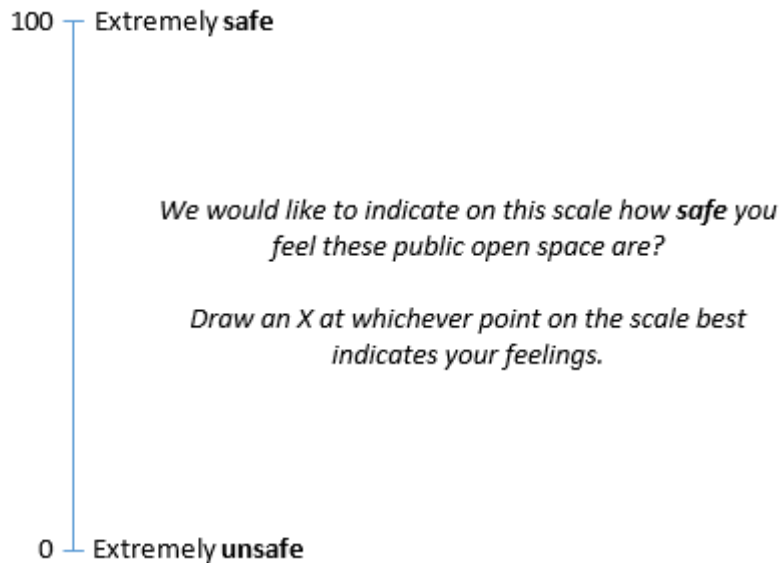


Blocks 4 and 5. Reversed target-concept discrimination and reversed combined task

Preferences for SuDS in Bristol (method trial 2018)

Investigating preferences for public greenspace with SuDS vs. greenspace without SuDS. IAT and two explicit tests. Evaluative attributes: attractiveness, safety, tidiness

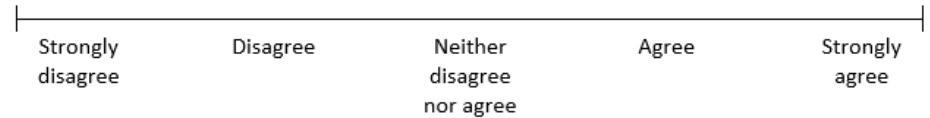
Feeling thermometer



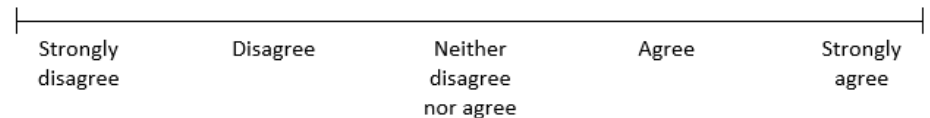
Likert scale

Draw a cross on the line that shows how far you agree with each of the statements below.

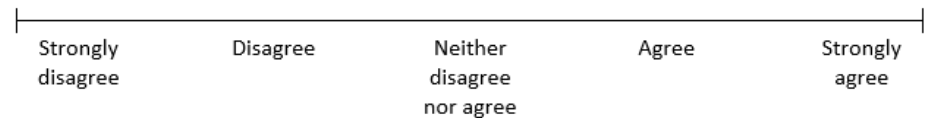
1. I would like to live close to these types of public green space



2. I would like more places like this where I live

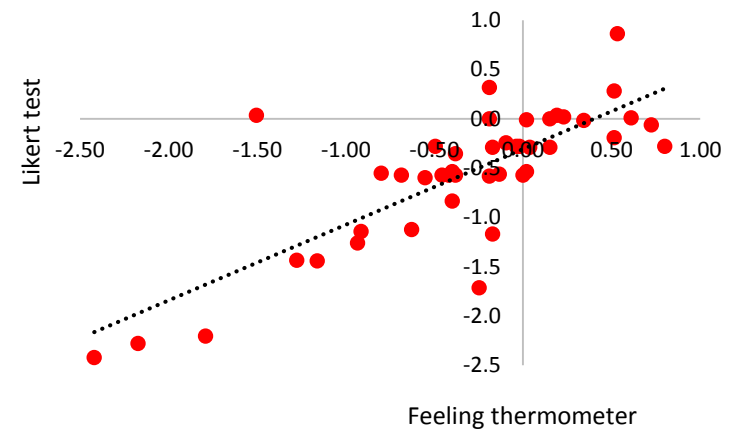
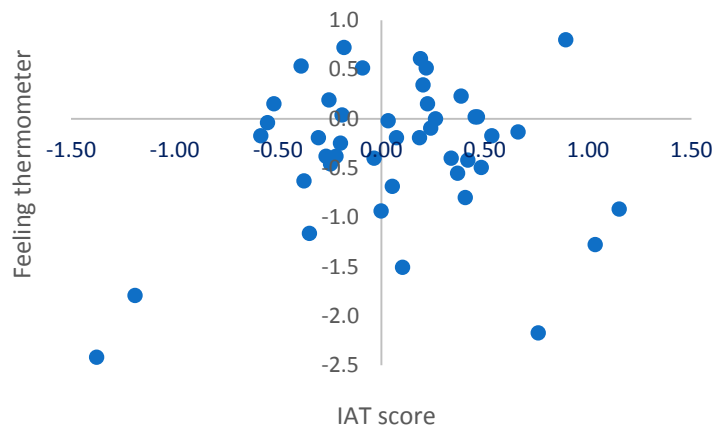


3. I would like to spend time in these types of public green space



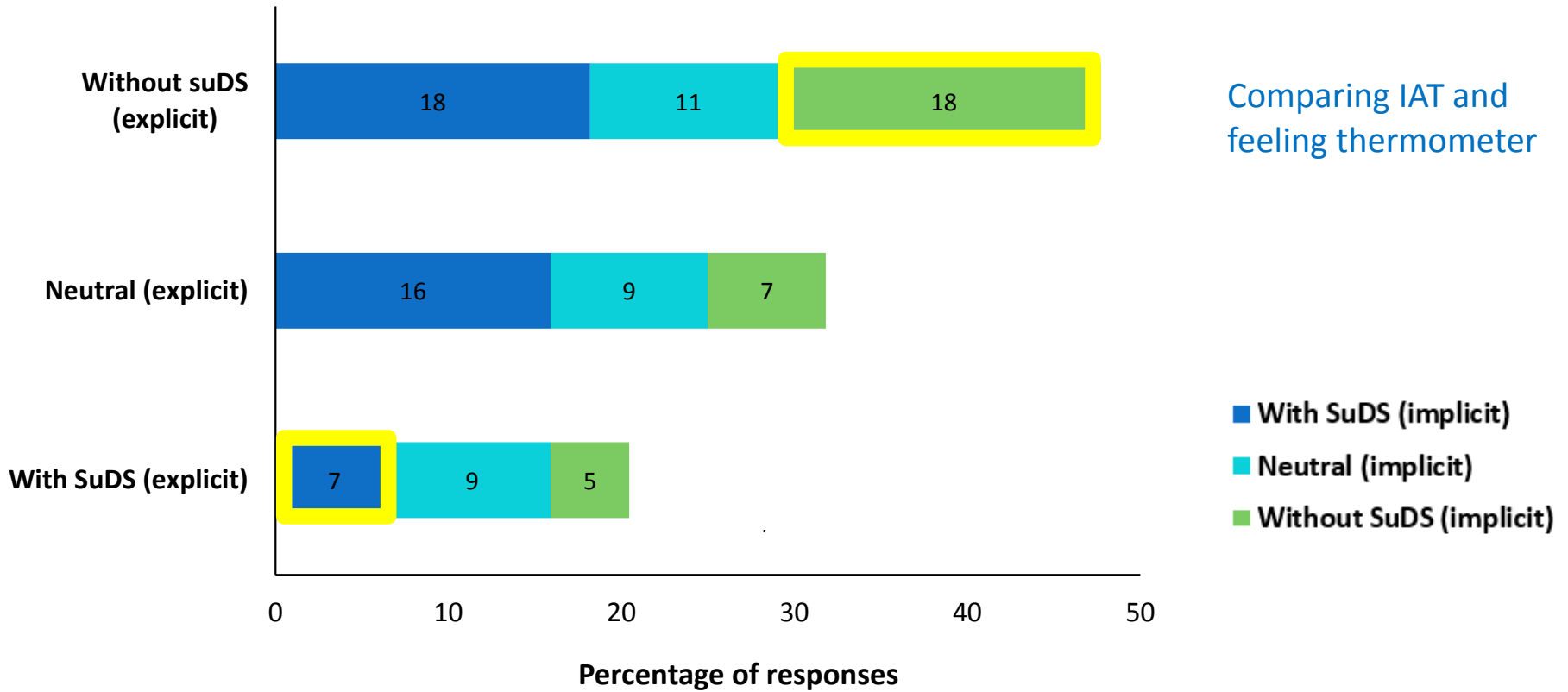
Preferences for SuDS in Bristol (method trial 2018, n=44)

- No overall **implicit** preference for SuDS or no-SuDS in public greenspace
- Overall **explicit** preferences for greenspace without SuDS in both tests
- No significant correlation between the implicit and explicit scores
 - Typical for socially sensitive, controversial topics or if explicit tests are biased
 - Fundamental difference between implicit and explicit attitudes?
 - Or people don't have a pre-formed implicit attitude towards SuDS?



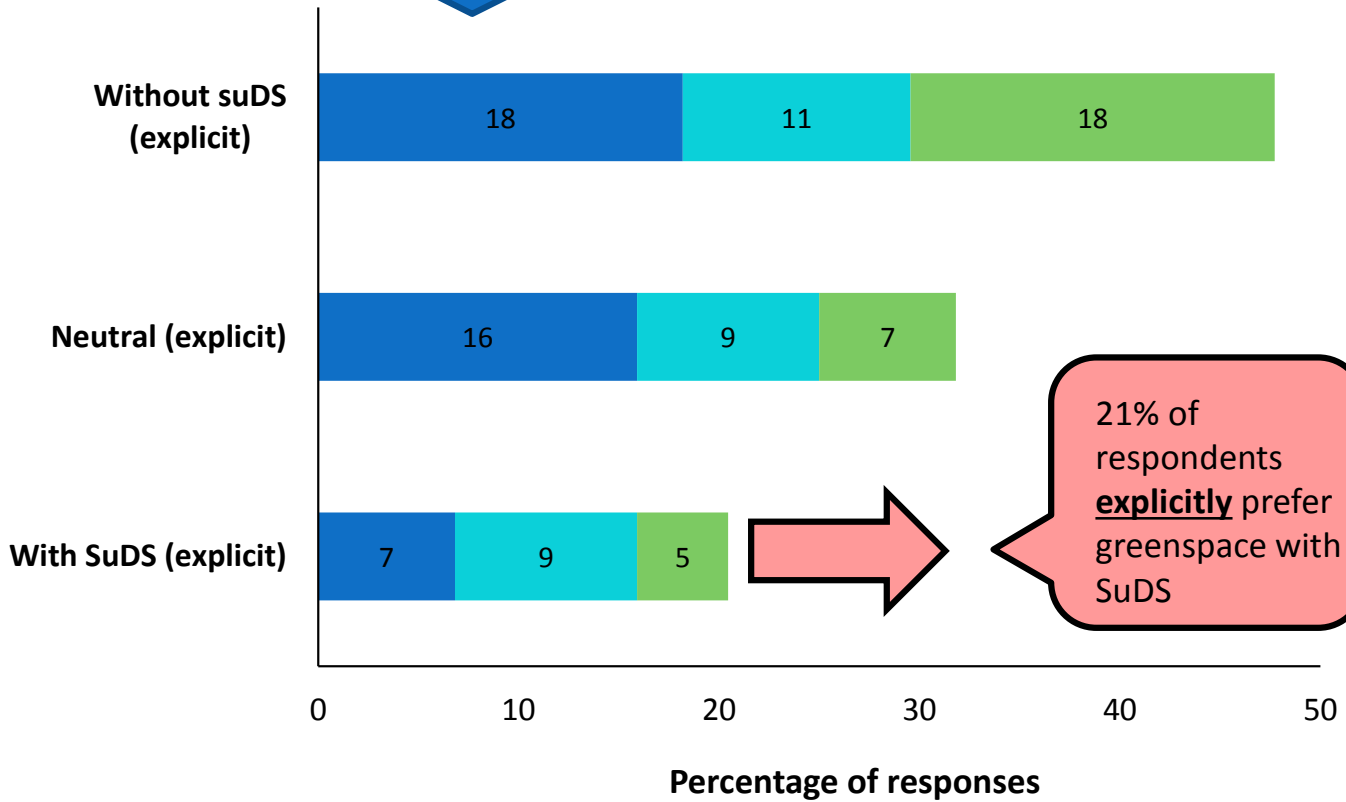
More insight from the preferences of individual respondents

- 7% both explicitly and implicitly prefer greenspace with SuDS
- 18% both explicitly and implicitly prefer greenspace without SuDS



More insight from the preferences of individual respondents

41% of respondents implicitly prefer greenspace with SuDS



Comparing IAT and feeling thermometer

- With SuDS (implicit)
- Neutral (implicit)
- Without SuDS (implicit)

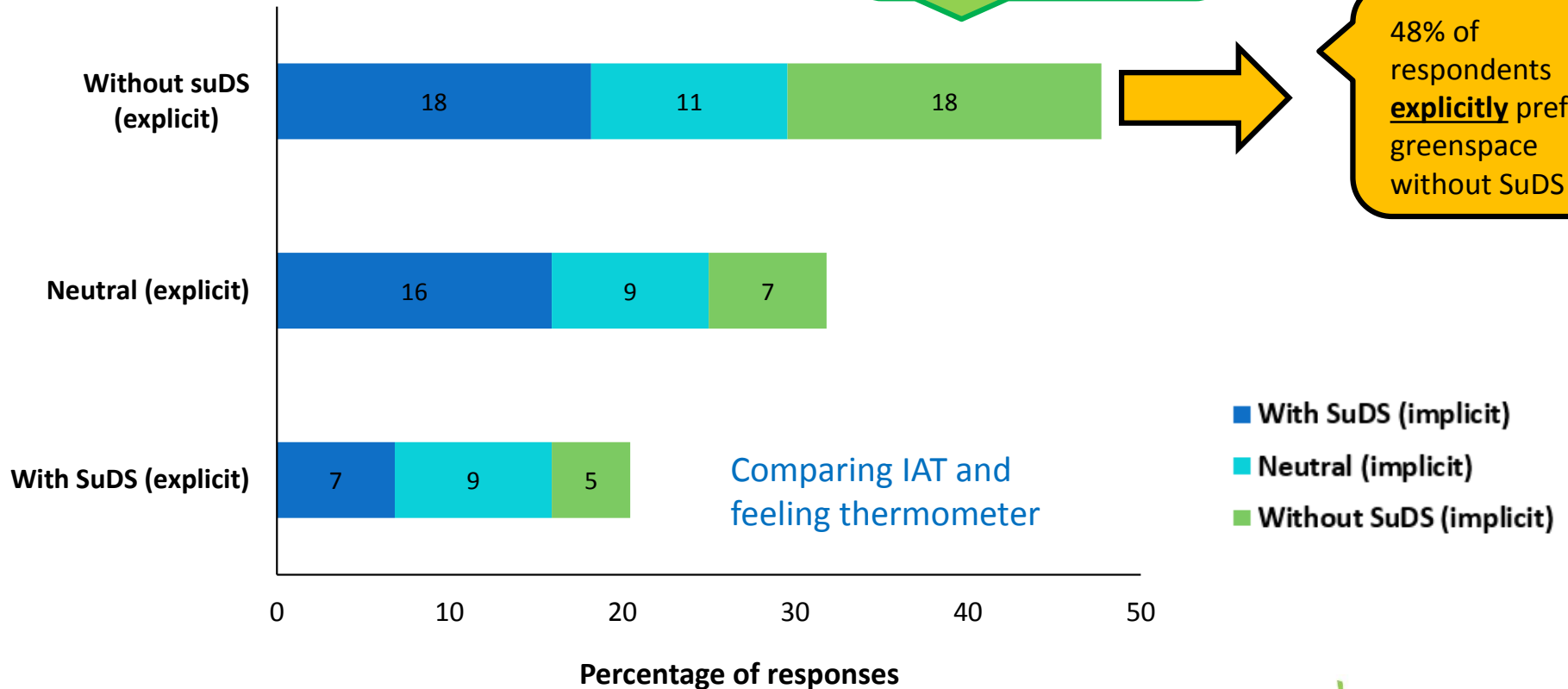
21% of respondents explicitly prefer greenspace with SuDS

More insight from the preferences of individual respondents

Similar number of individuals implicitly preferred SuDS and implicitly preferred No-SuDS = overall neutral average (could this be due to the people we surveyed)?

30% of respondents **implicitly** prefer greenspace without SuDS

48% of respondents **explicitly** prefer greenspace without SuDS



Nest steps: investigating preferences for SuDS in Newcastle

Site 1. Near SuDS (Newcastle Great Park)



Site 2. Near greenspace (Benton, near Northumbria University Coach Lane Campus)

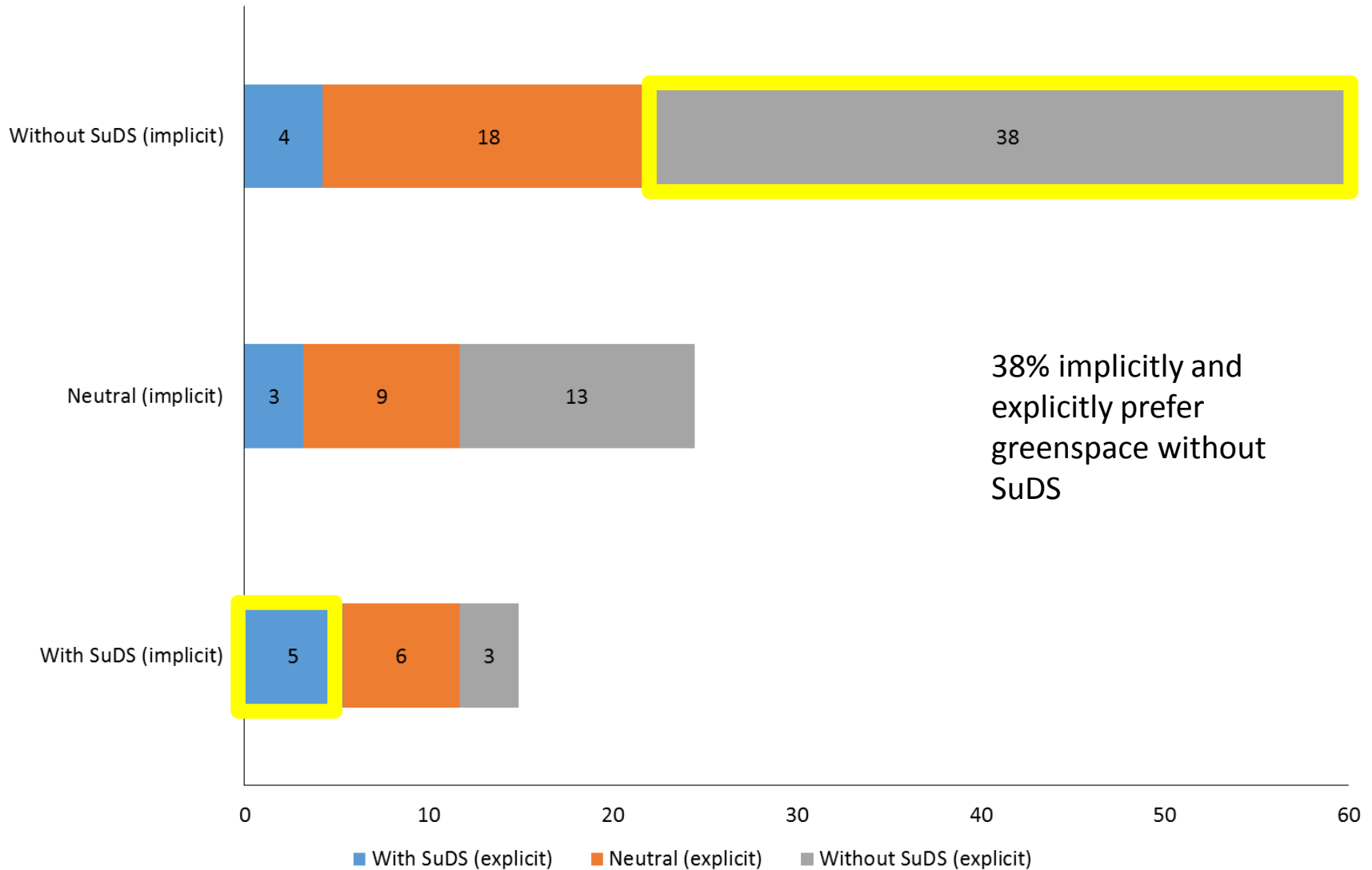


Q1. Does the local environment influence implicit and explicit preferences for SuDS?

Q2. Do explicit and implicit preferences differ among members of the public?

Market research company conducting surveys in January 2019 (~250 responses)

IAT vs. feeling thermometer Newcastle survey (n = 94)



Public green spaces that contain SUDS (sustainable urban drainage systems)

Please spend one minute studying the following images of public green spaces that contain SUDS (sustainable urban drainage systems)

25 seconds remaining

Continue



SUDS

NO SUDS



Your IAT Score is 6.66



If the E and I keys do not work, click
If the red X appears, press the other

Your IAT score suggests that you have a preference for **public green space with SuDS**

46 people have completed this test so far and the average score was **5.67**.

Online IAT

<https://afternoon-dusk-80317.herokuapp.com/>

Acknowledgement

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