

Illuminating perceptions:

New Zealanders' relationships with light and darkness at night

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Valuing Darkness Symposium
Melbourne
March 2025

nmit



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Conservation
Te Papa Atawhai

Benefits of Light and Darkness



Understanding the balance

How do New Zealanders value darkness and light at night?

1. To what extent can ratings of importance of different 'benefits' of light and darkness be predicted, based on:
 - demographics
 - location
 - night-time related variables
 - attitudes to light and darkness
2. What does this mean for Valuing Darkness?

Nationally representative survey

- Some previous surveys done (e.g. Scotland, Finland...) but
 - Self-selected samples, not nationally representative
 - From dark sky perspective, focussing on light *pollution*
- Newly developed instrument
 - Neutrally framed
 - Demographics, beliefs, attitudes, context-dependent questions
- IPSOS online panel – April 2024
- Representative of NZ population – quota for sex, age, region
- 1000 responses
- Margin of error 3%

Importance of Light and Darkness

'Benefits'

Orientation		Production	Experience		Rhythm of people
Traffic safety		Decoration	Connect nature		Rhythm of organisms
Property crime		Advertising	Spiritual		Visibility of the sky
Personal safety		Recreation	Peace, solitude		

In your neighbourhood:
How important are these benefits?

0	Not at all
1	Slightly
2	Moderately
3	Very
4	Extremely

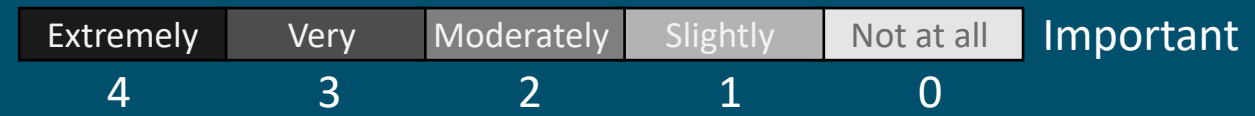
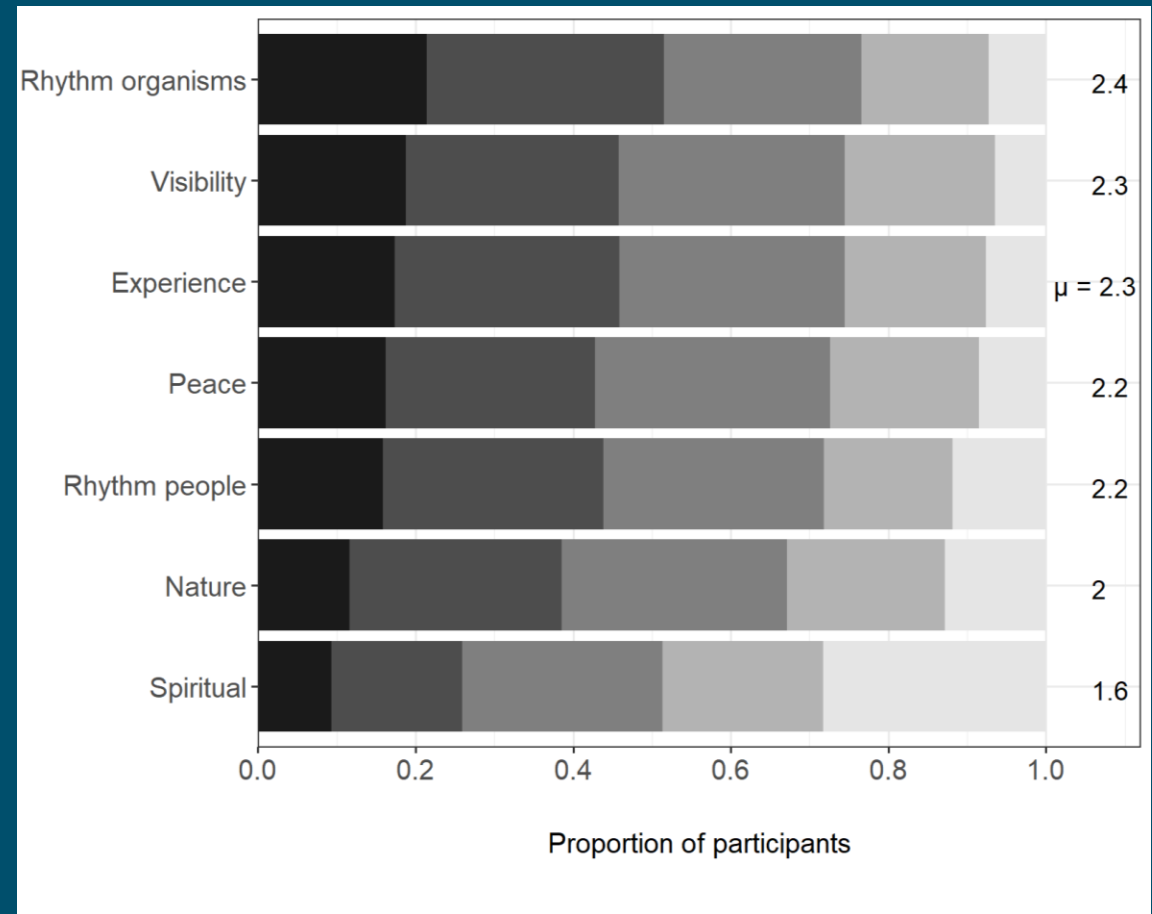
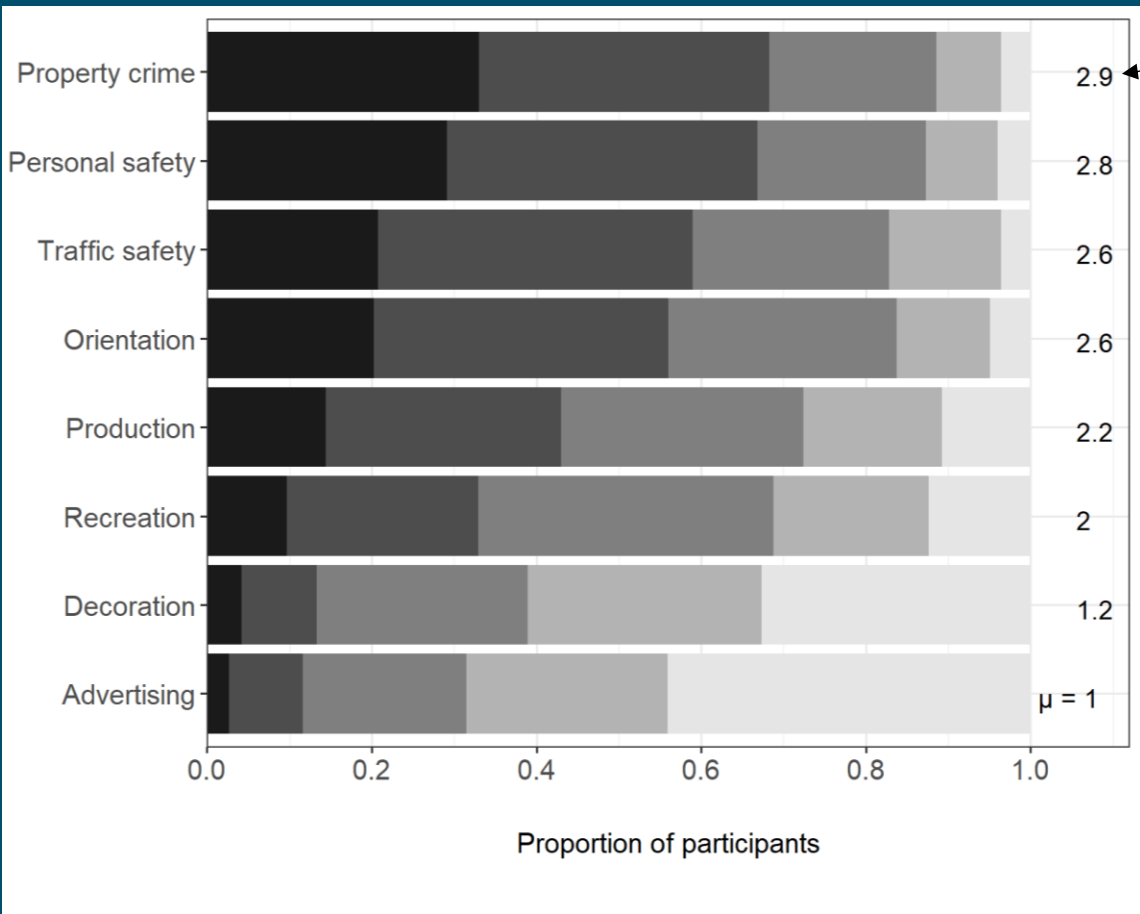
Importance of Light and Darkness

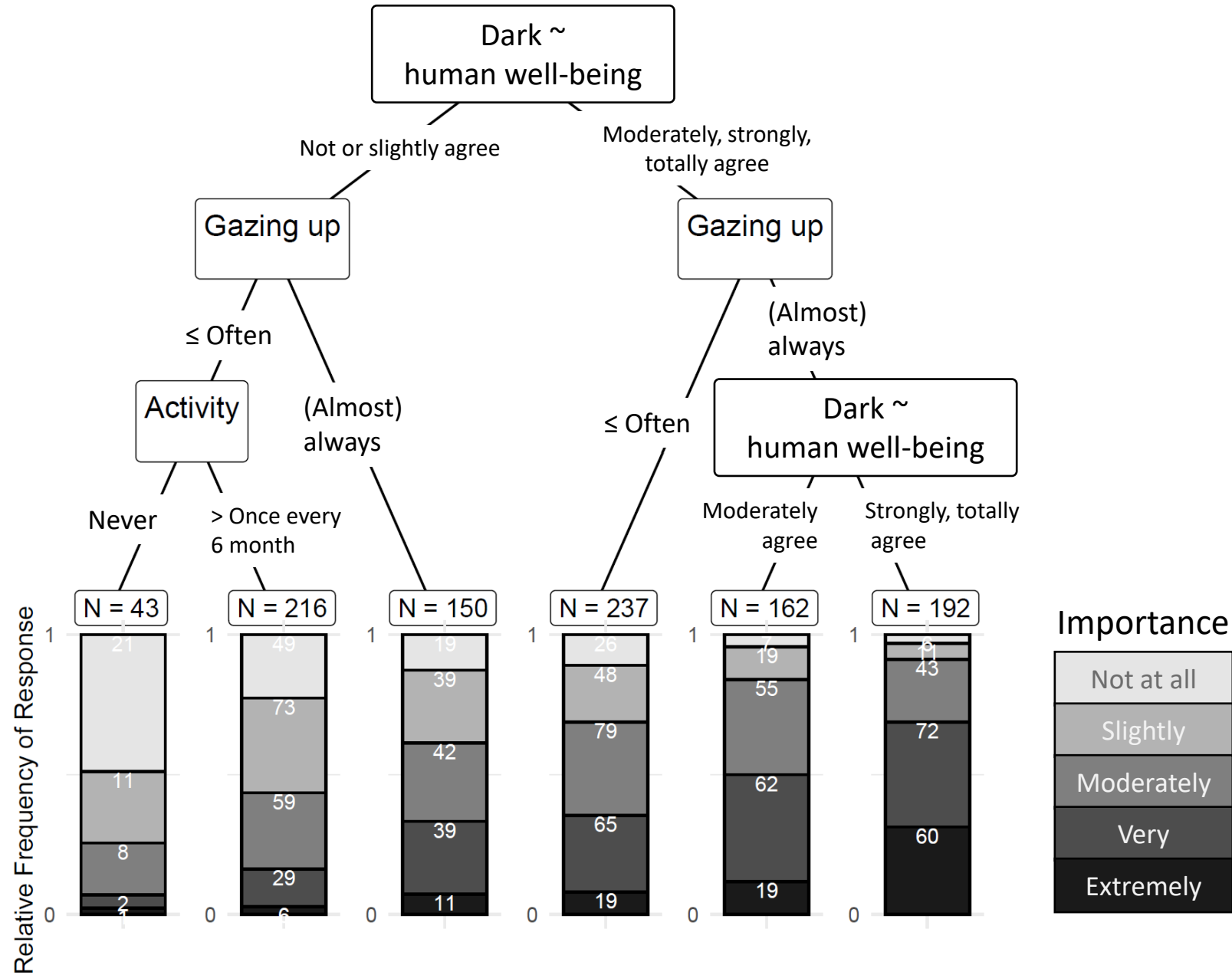
- Conditional Inference Trees
- Potential predictors
 - Demographics (age, sex, ethnicity)
 - Location related
 - Urban-rural gradient now
 - Urban-rural gradient growing up
 - Night-time related
 - Frequency of gazing up
 - Frequency of outdoor activity
 - Impairment in low-light conditions
- Attitude to darkness and light
 - Associated with bad/good things; economic poverty/prosperity; undeveloped/developed community; human well-being

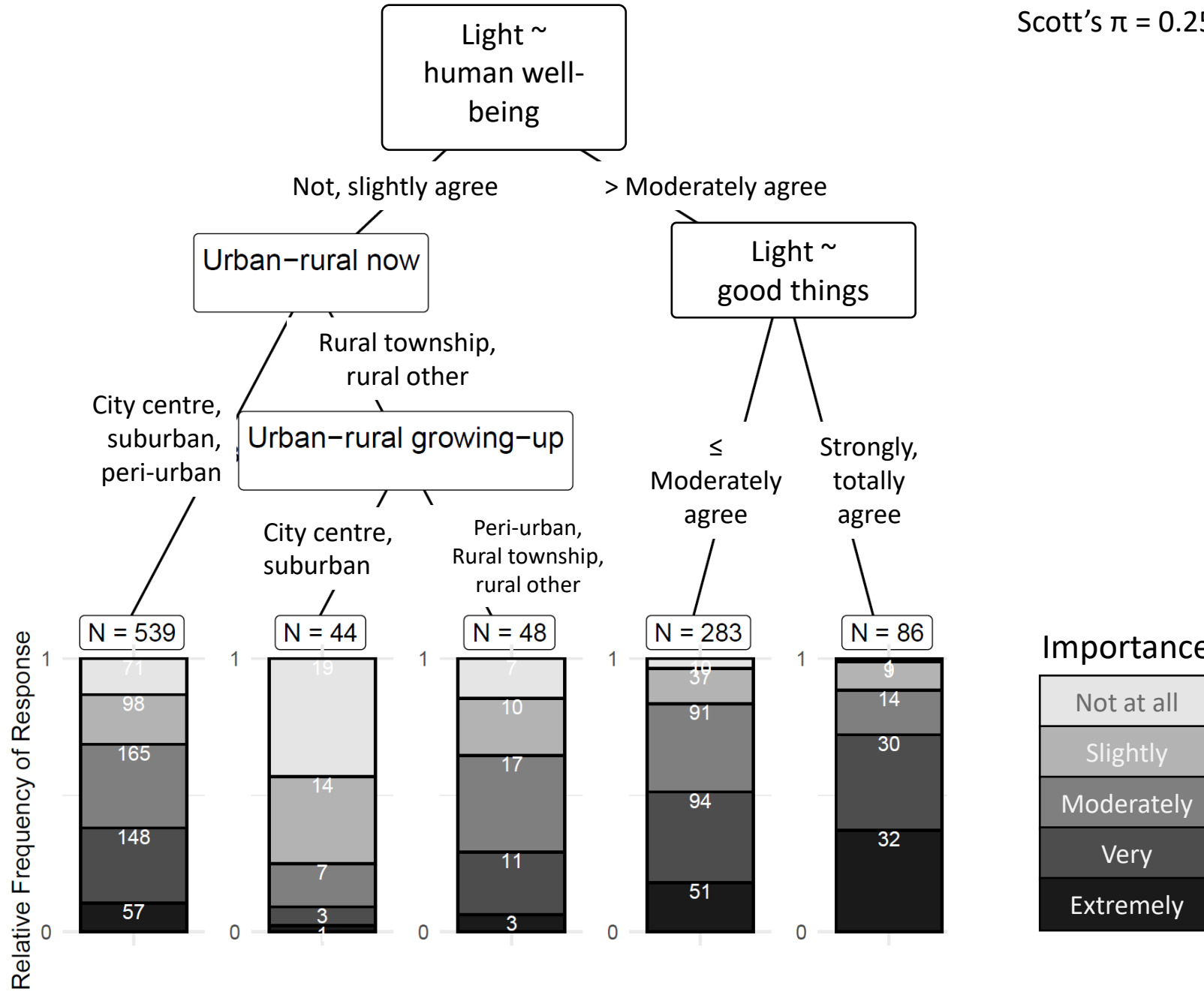
Light

Darkness

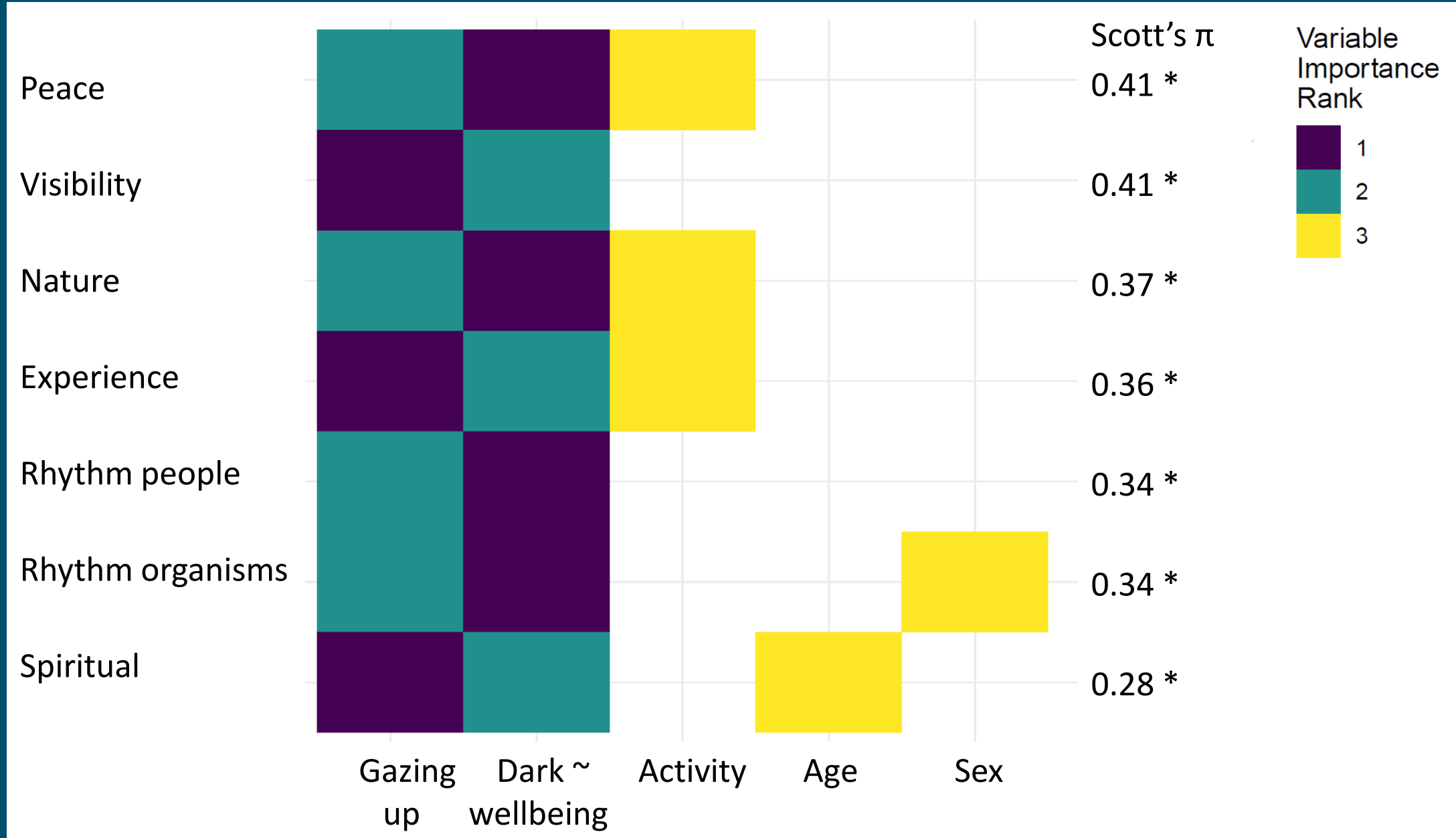
Mean importance





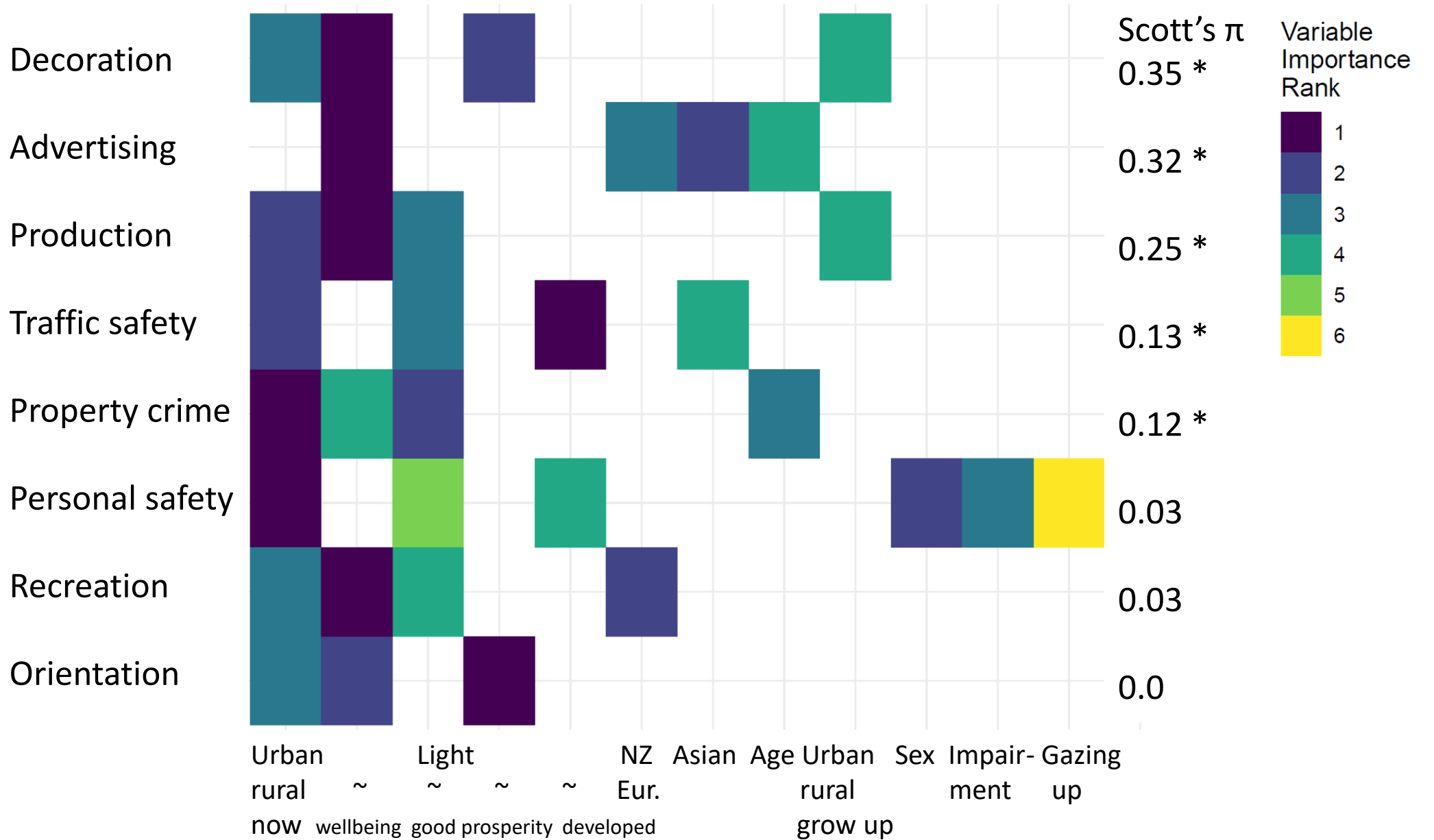


Darkness



- Described variation fairly well
 - Few predictors:
 - How often people gaze up +
 - Attitude to darkness ~ wellbeing
 - Not affected by where people live and hardly with other predictors
- Cieraad & Dalley
- in prep

Light



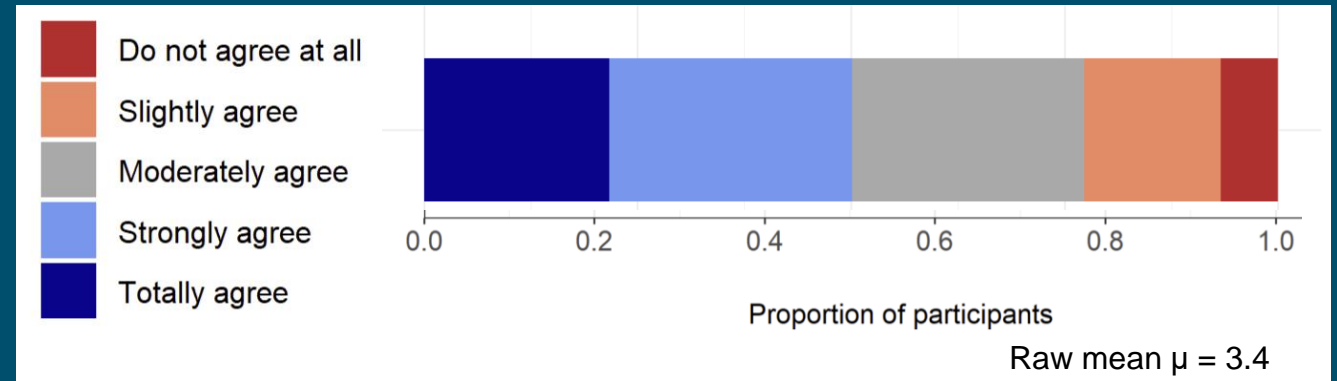
- Not all benefits described well
- Many predictors:
 - Where people live
 - Attitude to light x 4
 - Ethnicity, age, others...

Importance of Light and Dark

- Light benefits
 - Overall high importance
 - Some fairly well, others poorly predicted
 - Predicted by location and various attitudes to light, and others
- Dark benefits
 - Overall lower importance than light benefits
 - Fairly well predicted
 - Predicted by gazing up and attitude to dark ~ human wellbeing

So what for Valuing Darkness?

“Preserving dark night skies is important to me”



So what for Valuing Darkness

- Strong support for preserving dark night skies
- Narrative around light vs dark -> light *and* dark
 - Both have benefits, but they can't co-exist at same time & same place
 - How do we manage trade-offs?
- Physical setting (location) matters for how benefits of light are rated, but not for benefits of darkness
- Increase awareness around the requirements (e.g. brightness, limits of state) of lights to fulfil different benefits

IF PEOPLE SAT OUTSIDE AND LOOKED AT THE STARS EACH NIGHT
I BET THEY WOULD LIVE A LOT DIFFERENTLY



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Valuing Darkness Symposium

Manuscript in preparation

- Please get in touch if you have any questions about this study, or if you would like to cite this work
- We are about to submit this work for publication, and will shortly host the manuscript as pre-print with citable DOI (May 2025)
- This presentation was provided at the Valuing Darkness Symposium, Melbourne (March 2025); the results were a work in progress, and represented a subset of the full study

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