



# PROGRAMME OF TODAY

## Lectures

10.15-11.30

Marketta Kyttä: Socially sustainable & health promotive environments

LUNCH

12.30-14.00

Kamyar Hasanzadeh: Spatial units of analysis: Use of activity space models in environmental health promotion studies

Group work

# TODAY

## SOCIAL SUSTAINABILITY & HEALTH PROMOTIVE ENVIRONMENT

## GROUP WORK CONTINUES

PLEASE CONTACT Tiina or Marketta to get support!  
[tiina.e.rinne@aalto.fi](mailto:tiina.e.rinne@aalto.fi)  
[marketta.kytta@aalto.fi](mailto:marketta.kytta@aalto.fi)



Discuss with  
another student:  
- What are the essential  
characteristics of socially  
sustainable environment?



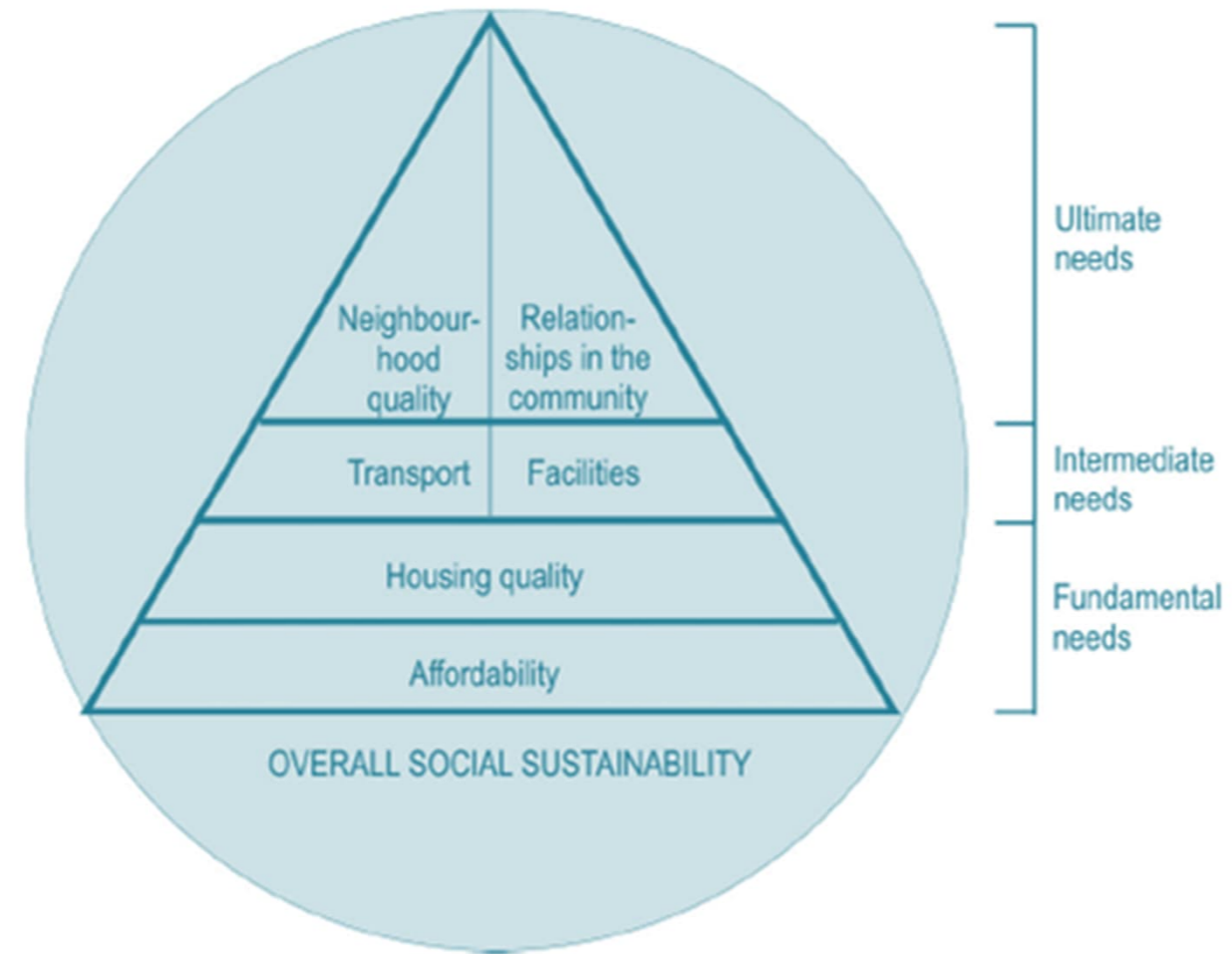
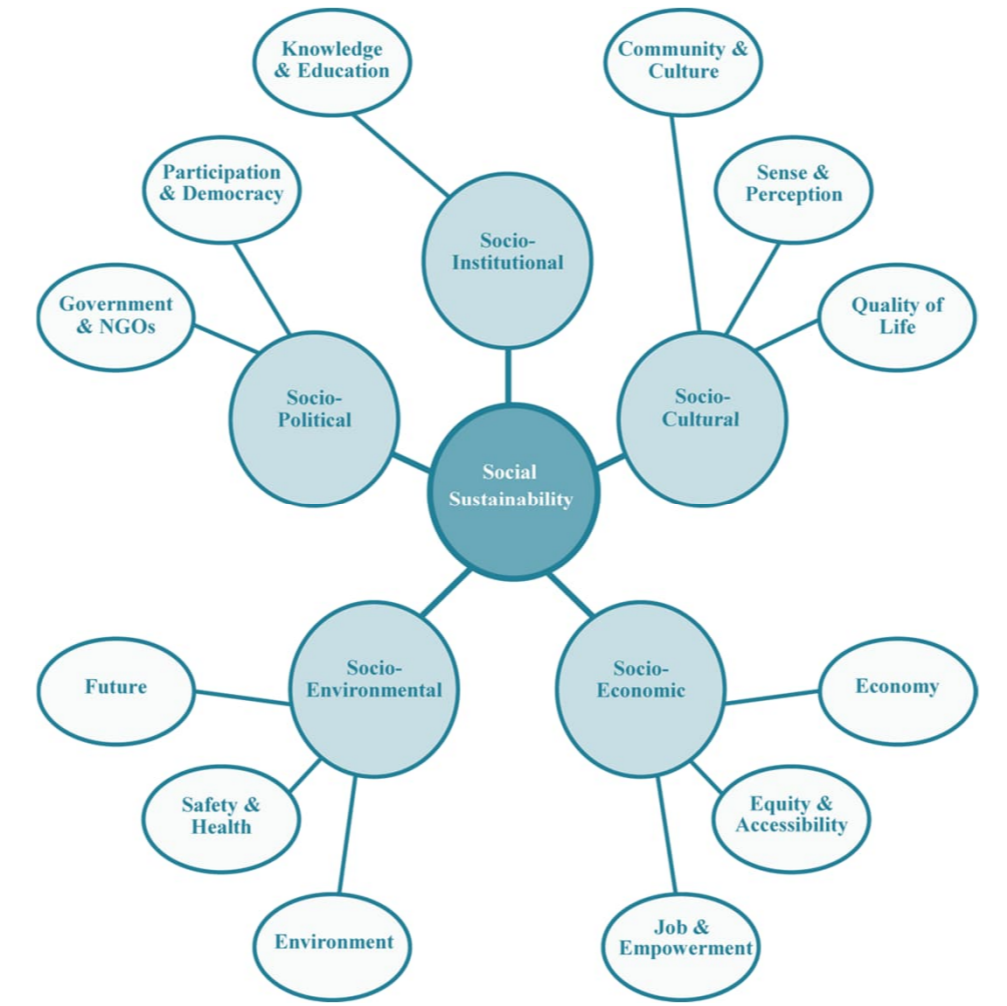
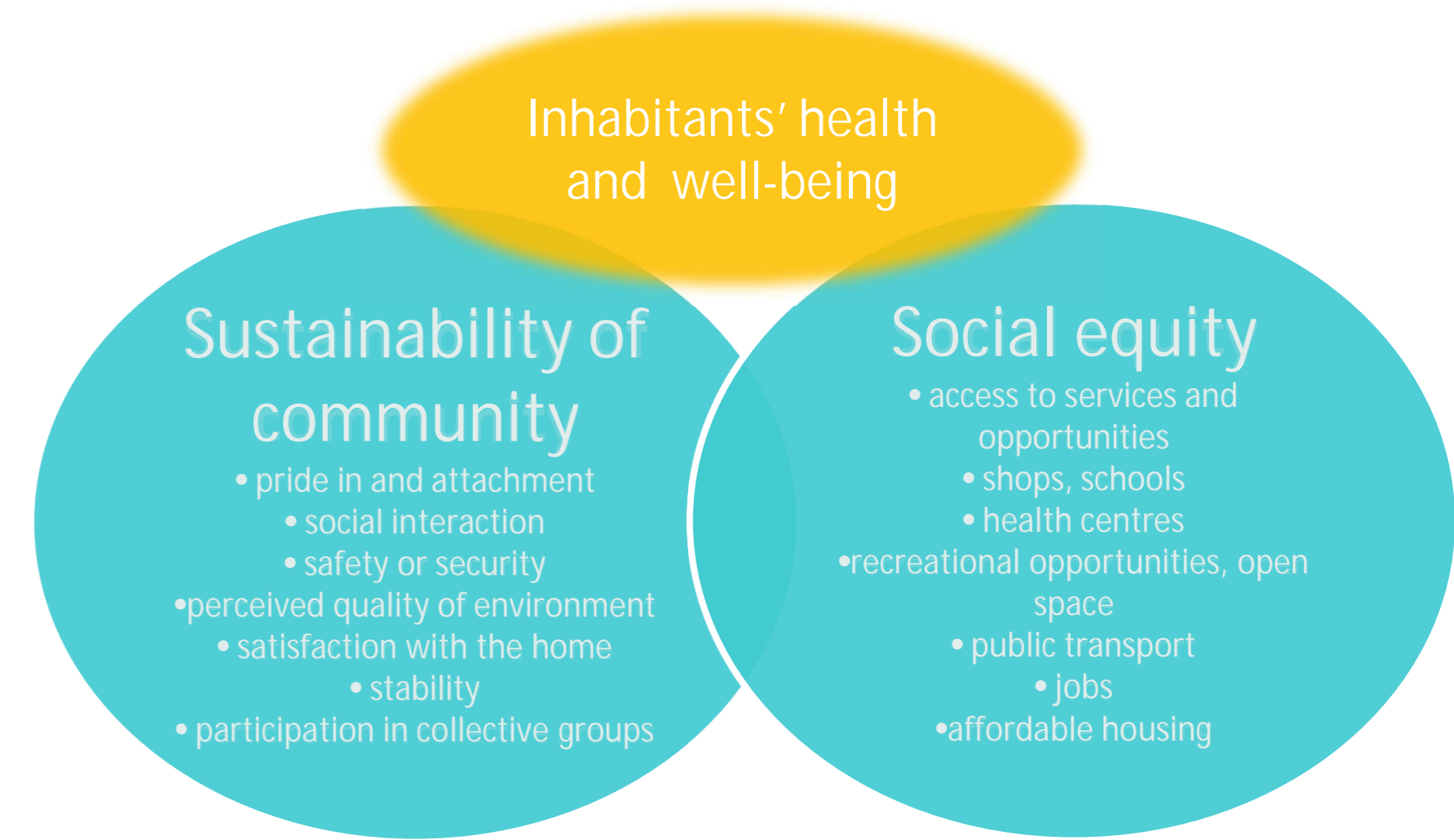


Figure 3. Conceptual evaluation model of the social sustainability of housing

Ancell & Thompson-Fawcett (2008) The Social Sustainability of Medium Density Housing: A Conceptual Model and Christchurch Case Study. Housing Studies, Vol. 23, No. 3, 423–441.



Taherkhani, R. (2022) An integrated social sustainability assessment framework: the case of construction industry. Open House International.



Bramley G, Dempsey N, Power S, Brown C, Watkins D, 2009, "Social sustainability and urban form: evidence from five British cities" Environment and Planning A, 41, 2125–2142

How to change or promote ecofriendly behavior?

BRIDGE SOCIAL SUSTAINABILITY

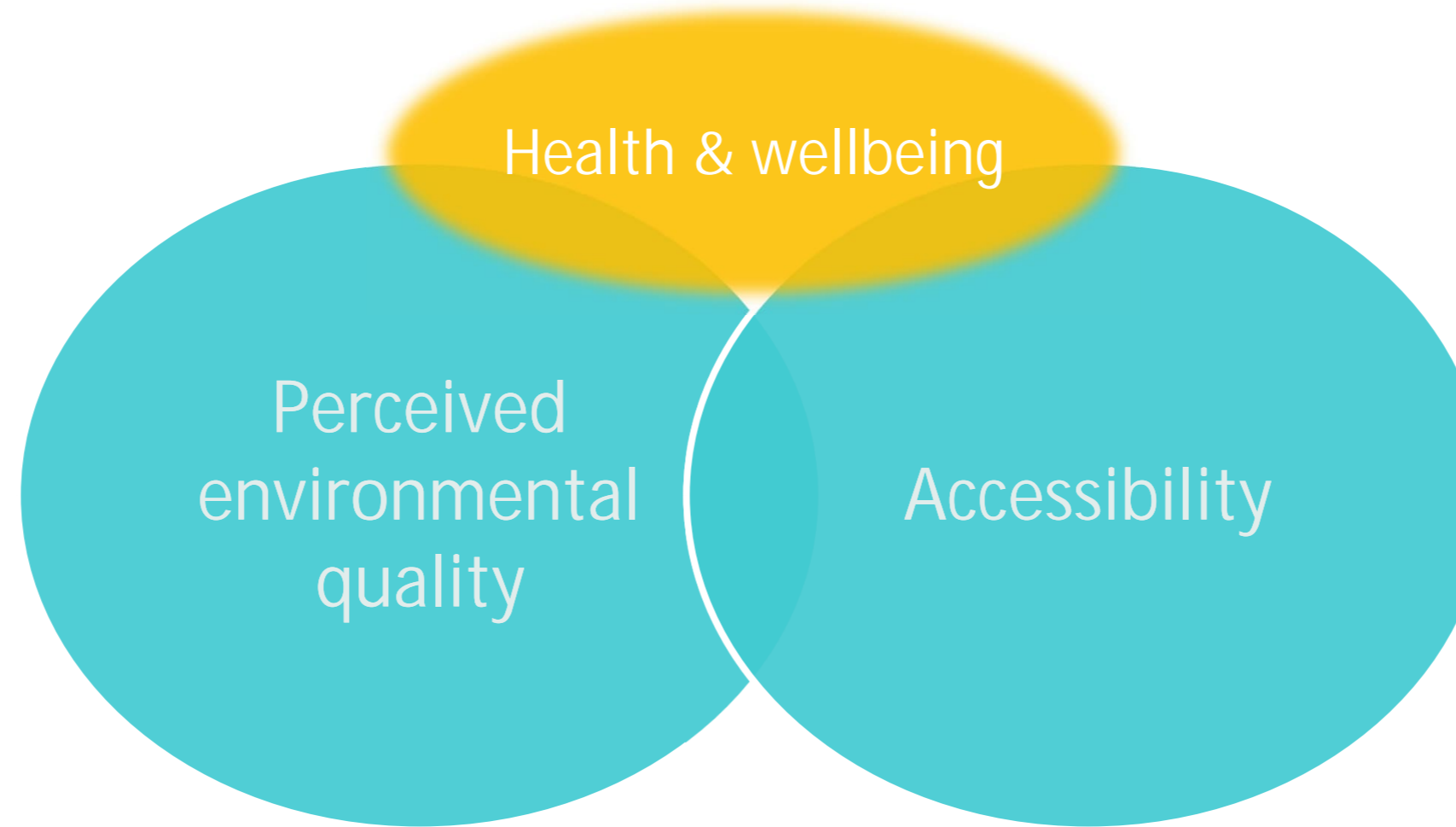
Why people behave the way they do?

MAINTENANCE SOCIAL SUSTAINABILITY

How various contexts meet the basic needs of people?

DEVELOPMENT SOCIAL SUSTAINABILITY

Vallance S, Perkins H C, Dixon J E, 2011, "What is social sustainability? A clarification of concepts" Geoforum 42 342-348



## Our model in Urban Happiness -study: the combination of the two





URBAN INFILL POLICY  
THE PERCEIVED QUALITY OF ENVIRONMENT



Pohjois-Haaga  
Kannelmäki  
Lassila  
Kontula  
Mellunmäki



Suvela  
Leppävaara  
Matinkylä  
Soukka

pehmoGIS HELSINKI

Background info Environment values Propose improvements Everyday places Feedback

Evaluate your living environment

Evaluate your living environment from four different perspectives. Mark on the map positive and negative locations concerning:

Hide my locations

The appearance  
 Positive  Negative

The social life  
 Positive  Negative

The atmosphere  
 Positive  Negative

The functional possibilities  
 Positive  Negative

Previous Next

Please tell more about the social life of the environment here...

- The social life is vivid
- Neighbour relations here are harmonious
- The residents take care of the surroundings well
- The residents care for each other
- The people significant to me are nearby
- Reputation of this place is good
- The diversity of residences is adequate
- I feel socially secure
- Other

Save changes

# Urban Happiness-project

Urban intensification policy

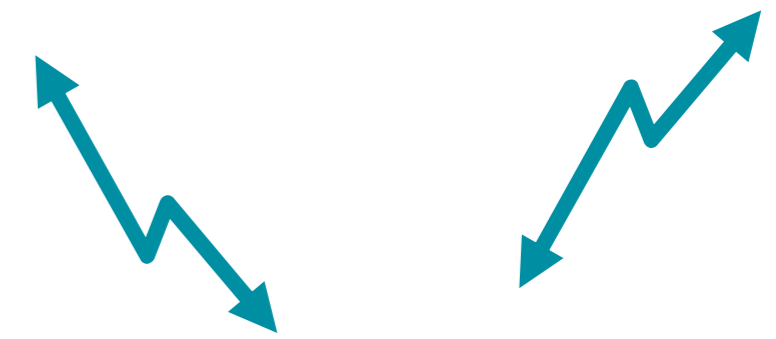
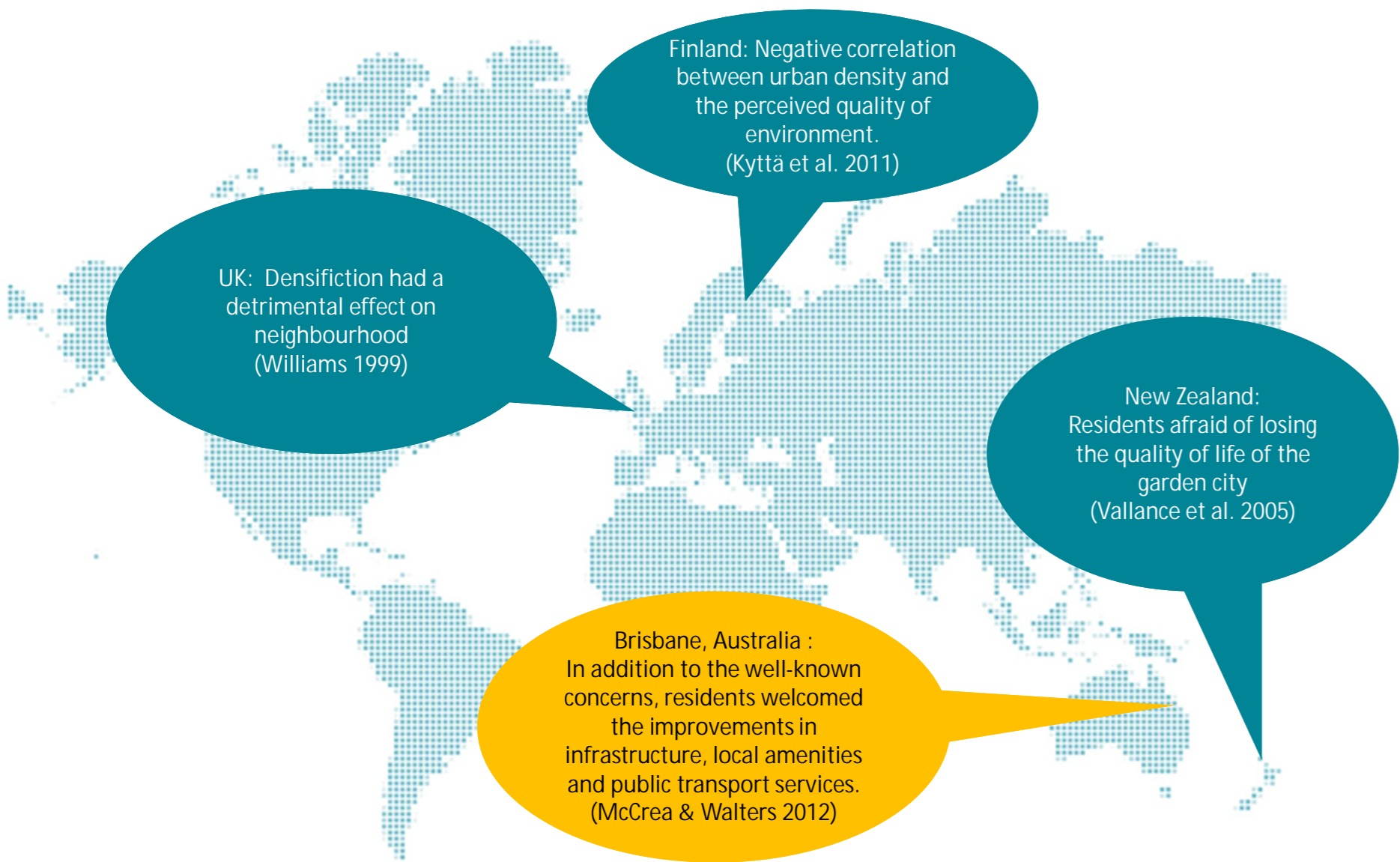
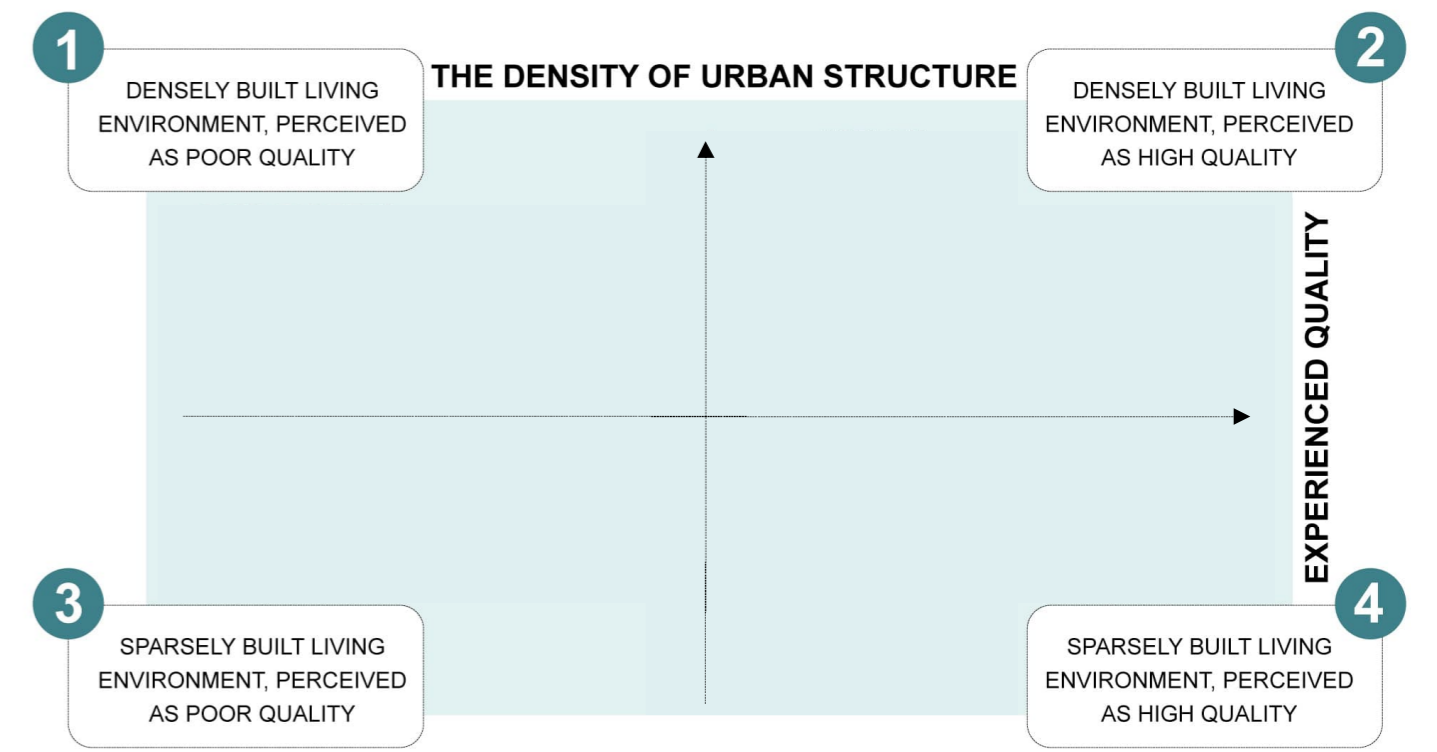


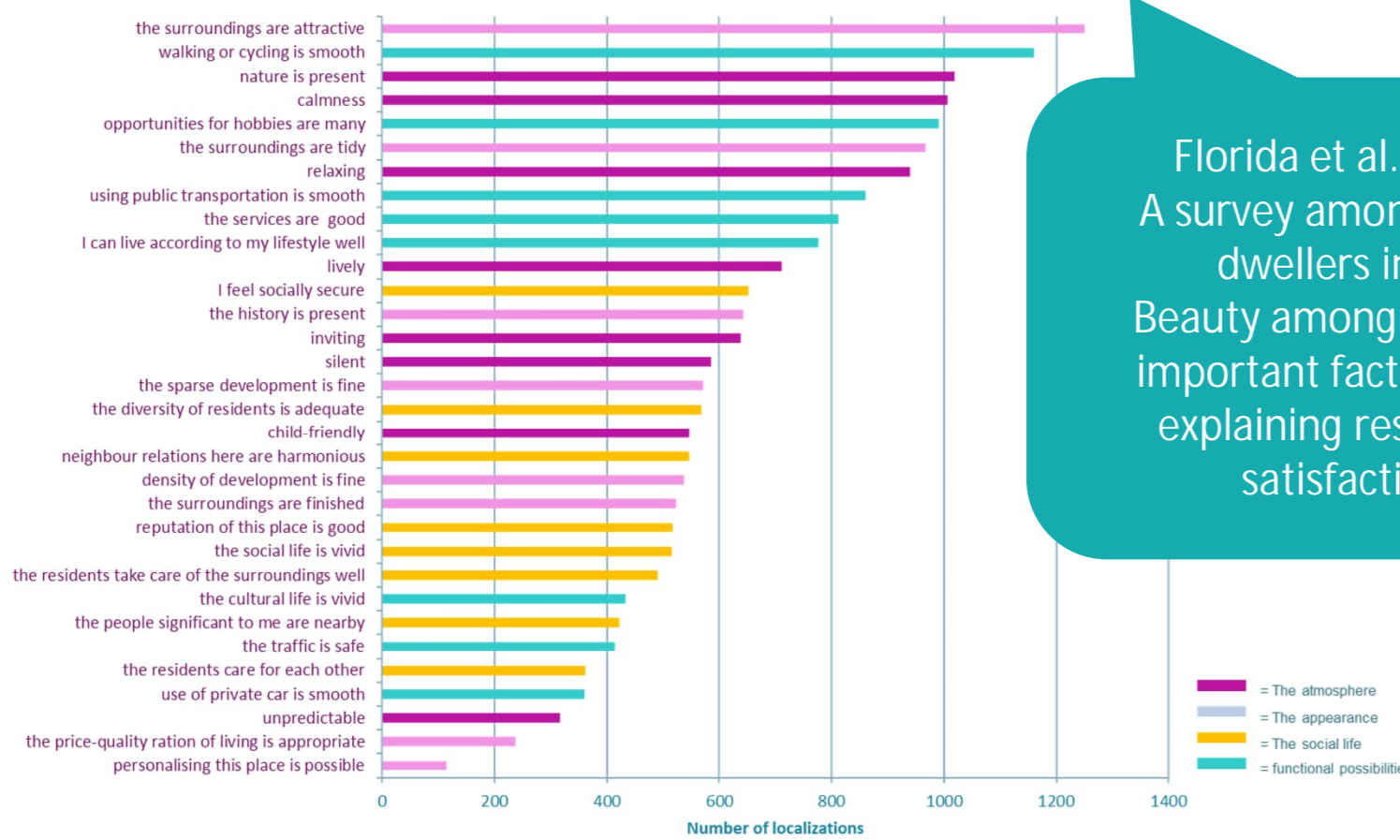
Figure: Sirkku Huisko



# THE SOCIAL ACCEPTANCE OF URBAN DENSIFICATION



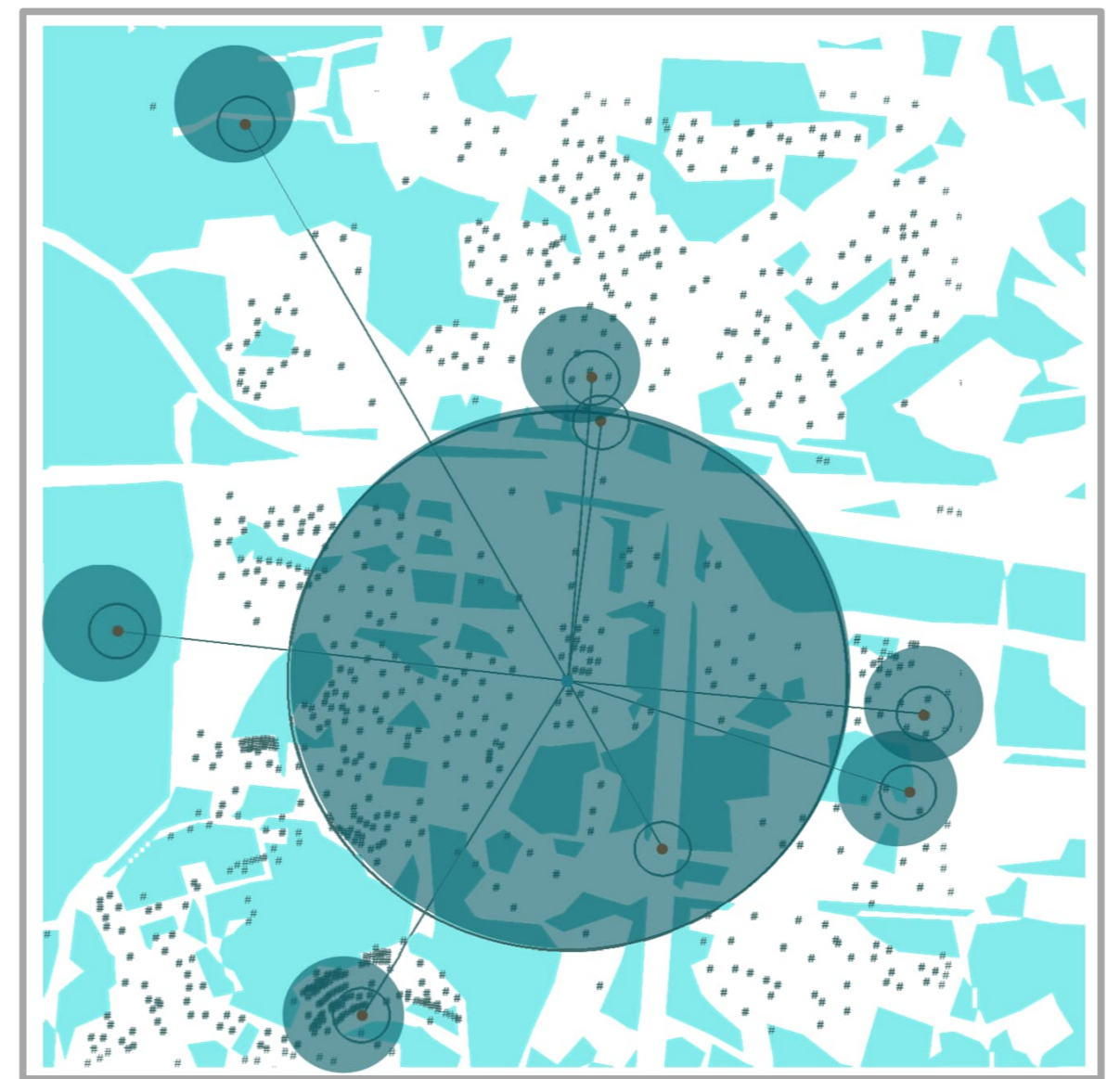
# The contents of positive quality factors (Urban Happiness –study)



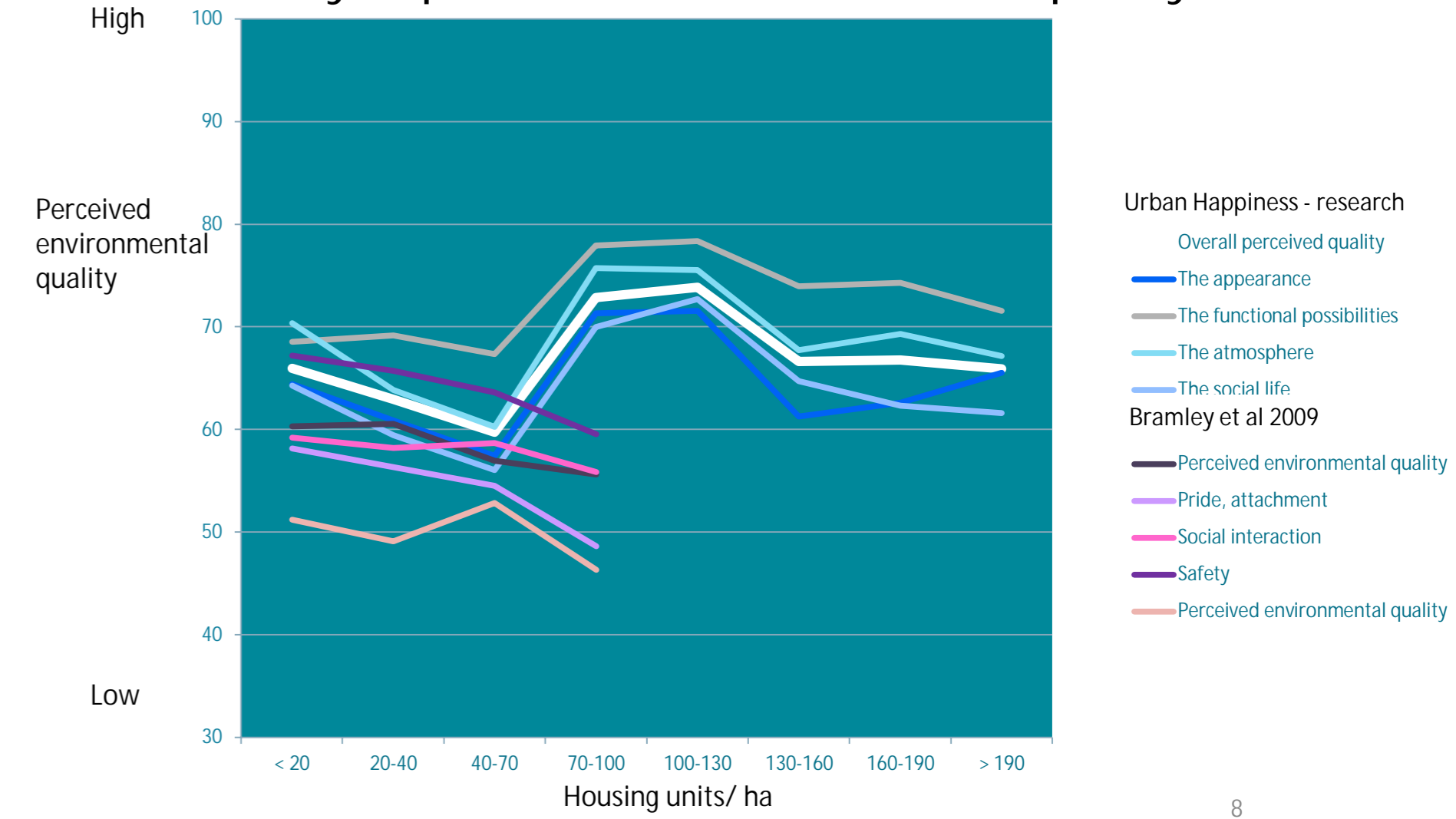
Florida et al. (2011)  
A survey among 28 000 dwellers in US:  
Beauty among the most important factors when explaining residential satisfaction.

■ = The atmosphere  
■ = The appearance  
■ = The social life  
■ = functional possibilities

# INDIVIDUALLY SENSITIVE ANALYSIS OF URBAN STRUCTURE



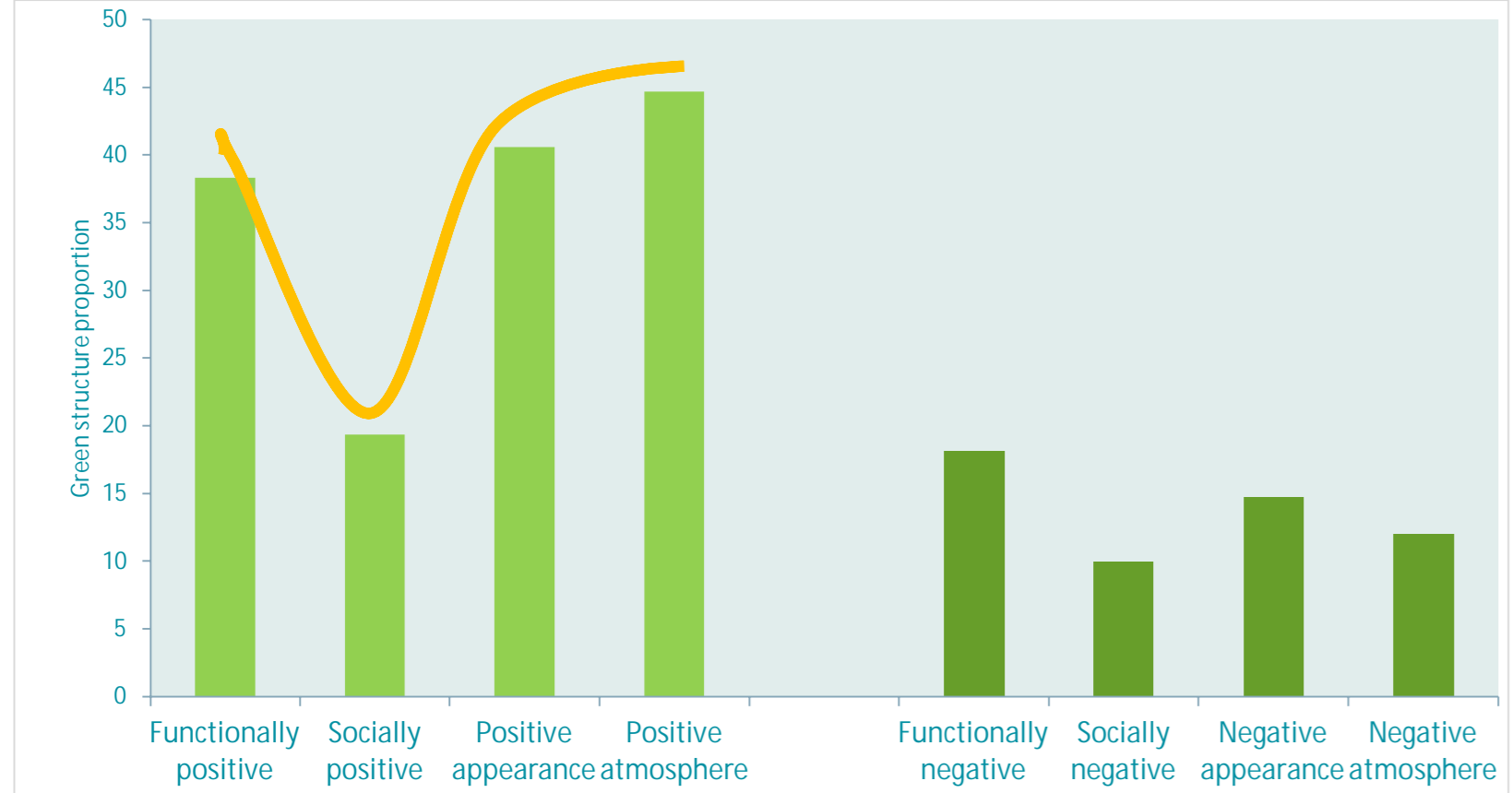
# Urban density & perceived environmental quality





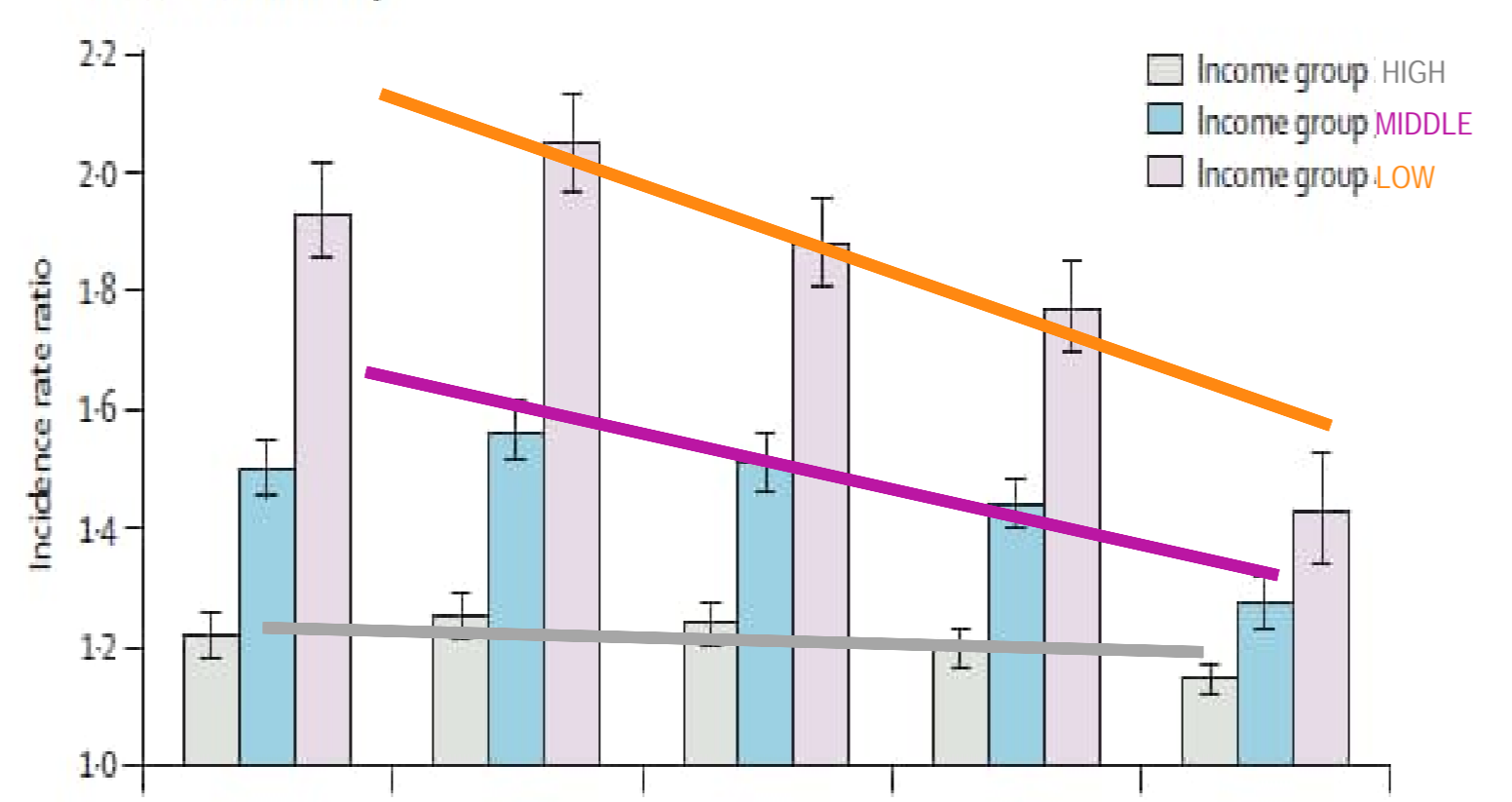
# ALSO GREEN PLACES EXTREMELY VALUABLE EXPERIENTIALLY!

Green structure proportion & various types of quality places



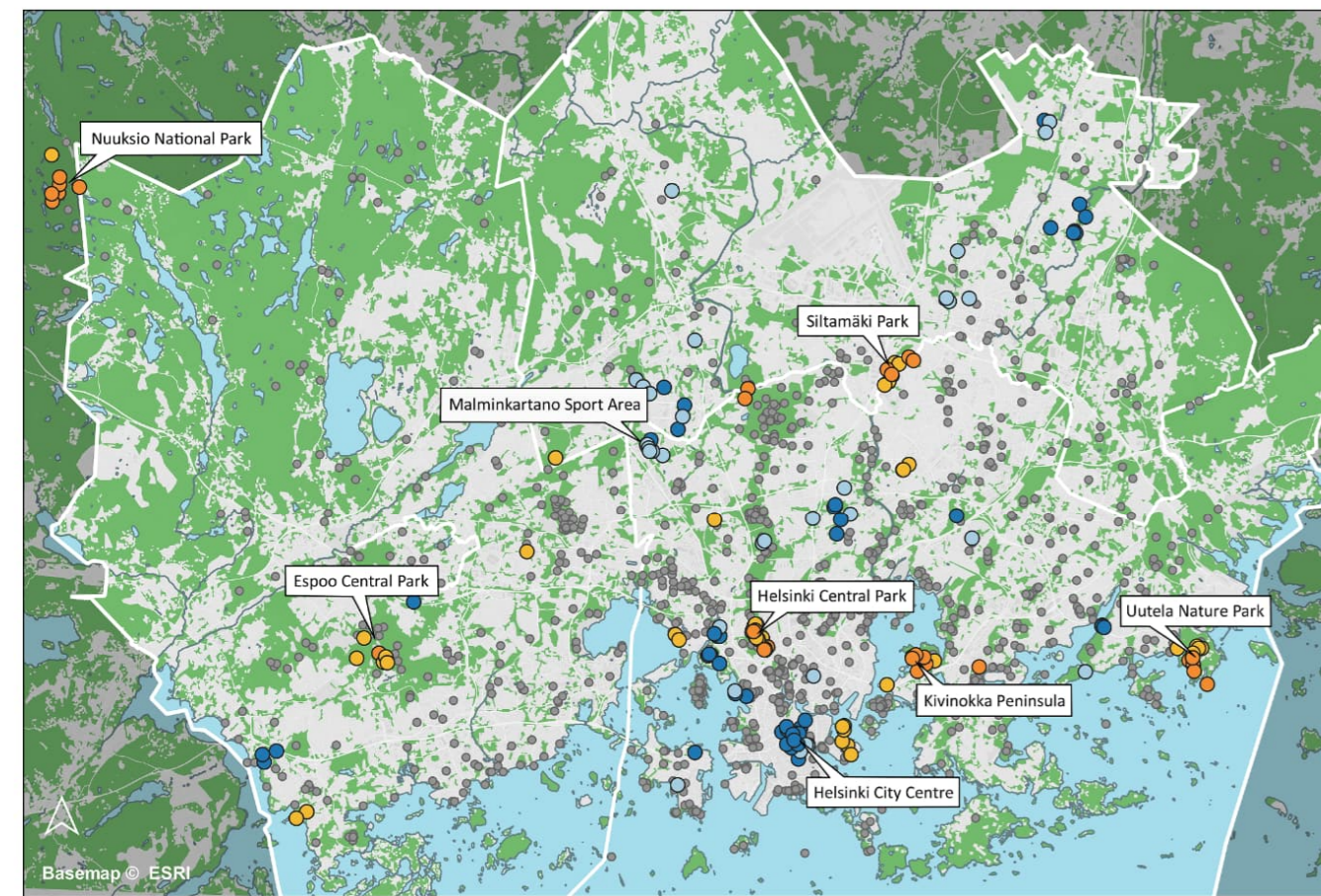
# GREEN STRUCTURE AND MORTALITY IN VARIOUS SOCIO-ECONOMIC GROUPS

A All-cause mortality



Mitchell, R & Popham, F. (2008) Effect of exposure to natural environment on health inequalities: an observational population study. The Lancet, Vol.372, Issue 9650, 1655-1660.





● Cold spot - 95% CI    ● Hot spot - 90% CI    ● Not significant    ■ Green land-use (CORINE 2018)    0 2.5 5 km  
 ● Cold spot - 90% CI    ● Hot spot - 95% CI  
 CI = Confidence Interval



Kajosaari, Anna; Pasanen, Tytti P. (2021) Restorative benefits of everyday green exercise: A spatial approach. *Landscape and Urban Planning* 206, 103978.

	Relaxation	Stress reduction	Nature enjoyment
Large recreational forests	74,8	69,9	91,1
Large urban forests	67	61	91,5
Blue spaces	71,5	65	81,5
Small urban forests	55,3	49,1	88,6
Maintained urban green space	58,4	48,4	77
Outdoor sports facilities	57,6	55,9	63,1
Built outdoor environment	50	42	68,2

*"Planning and health is big news"*

(Boarnet, 2006)

**BUT**

HOW ABOUT HEALTH AND WELLBEING?

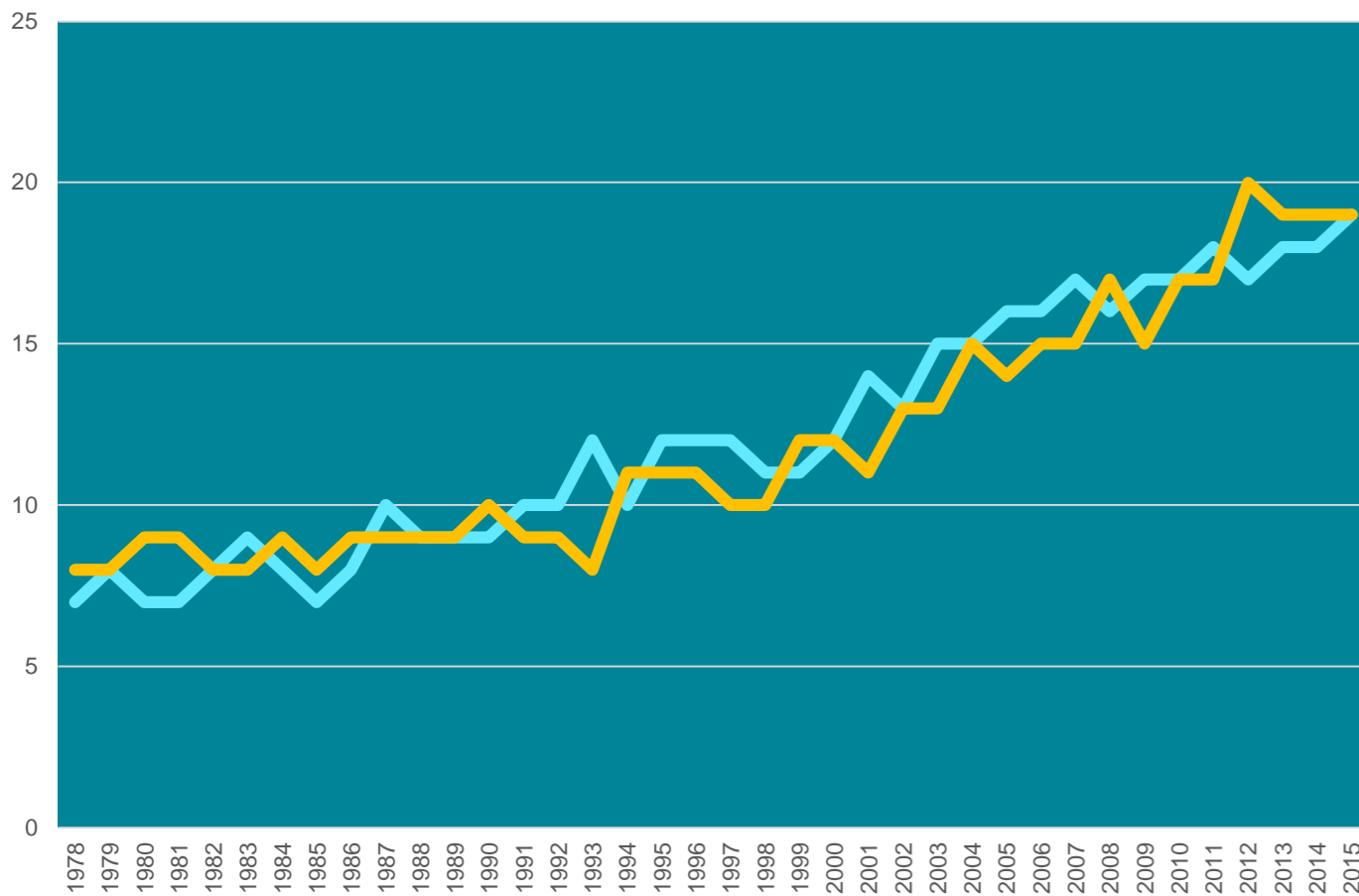
TWO WAVES OF ENVIRONMENTAL  
HEALTH PROMOTION RESEARCH

Indirect **Health promotive** characteristics of environment

Direct **Illness producing** characteristics of environment

# THE PROPORTION OF OVERWEIGHT 25-65-YEAR-OLDS FINNS BETWEEN 1978-2015

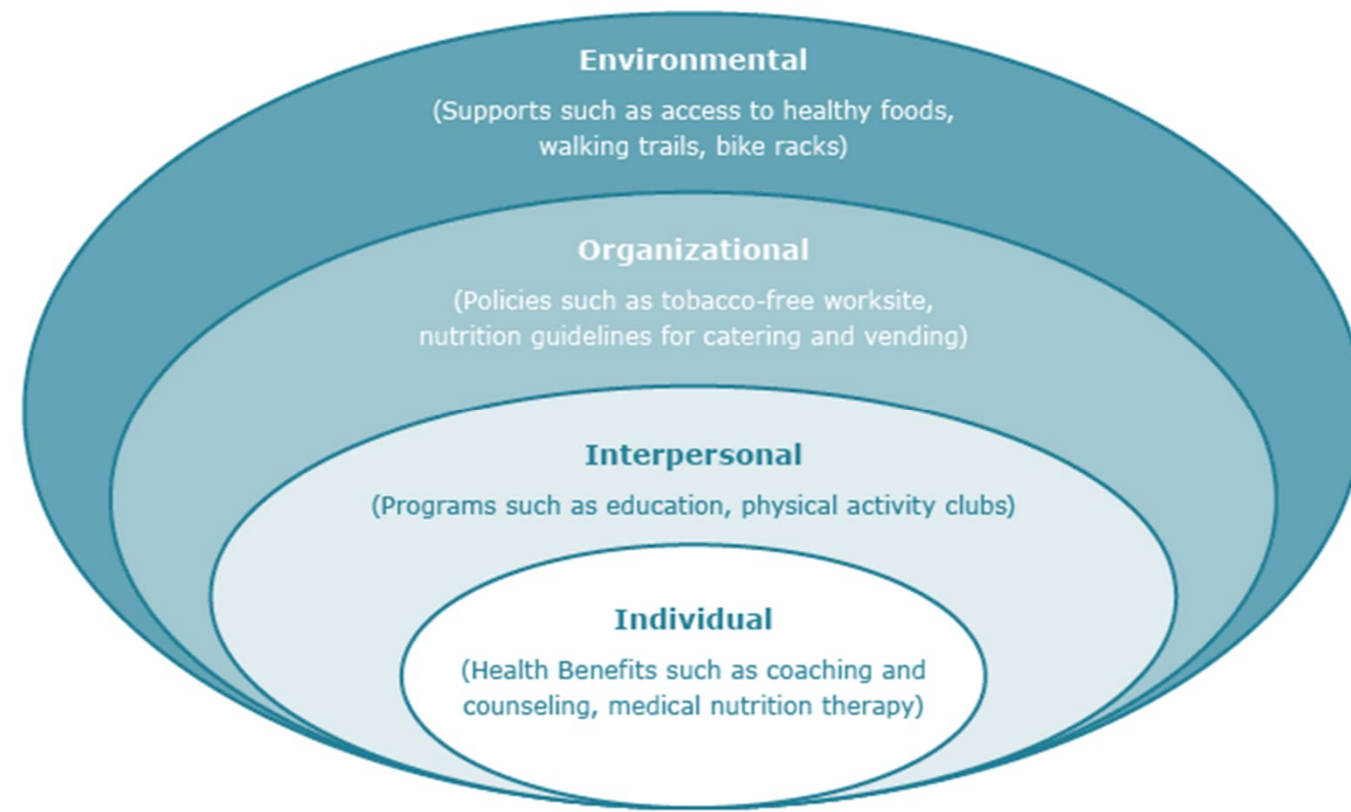
(Self-reported weight and height, BMI>30)



—Men  
—Women

(THL)

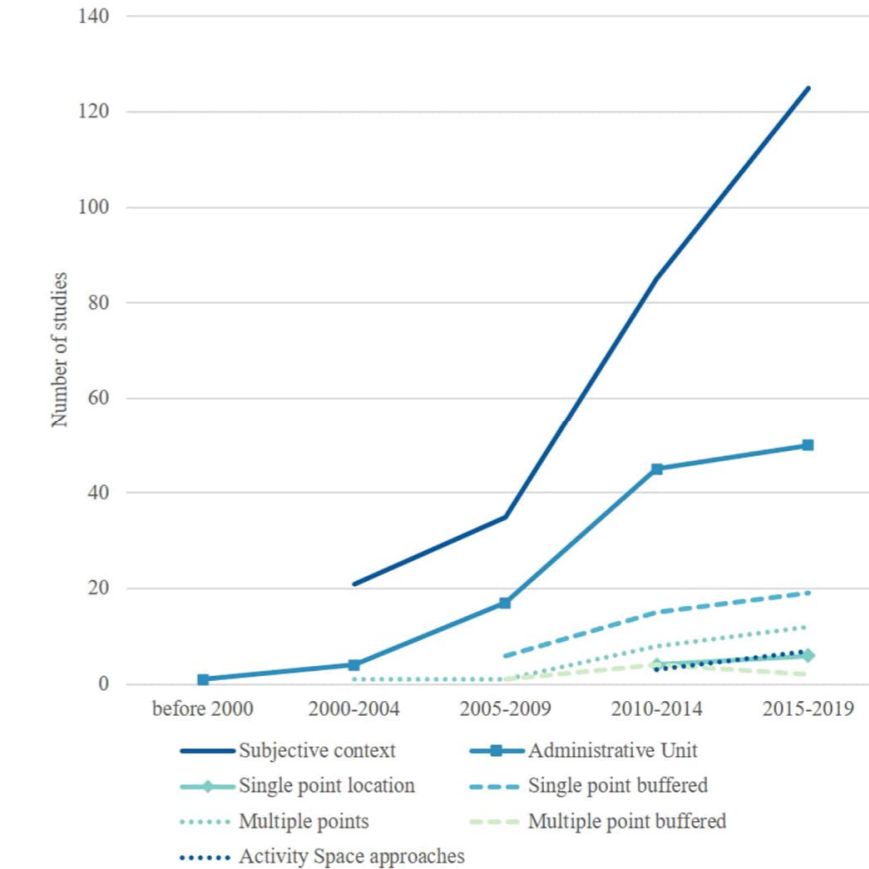
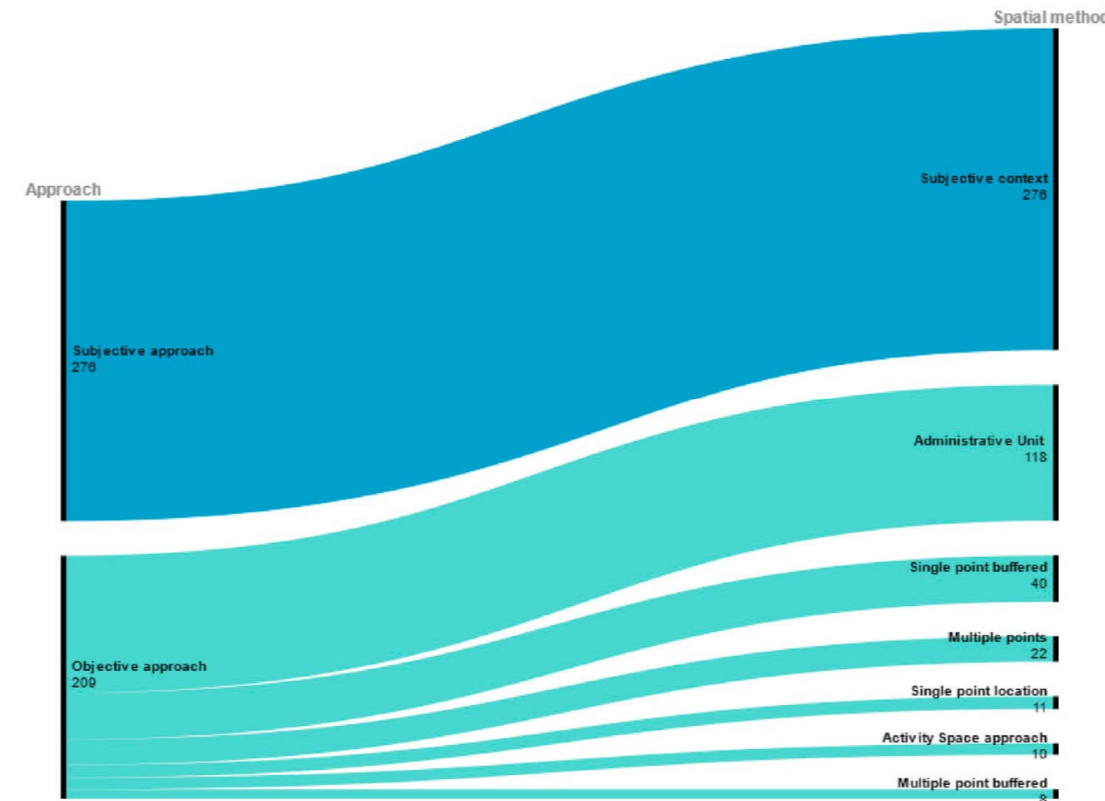
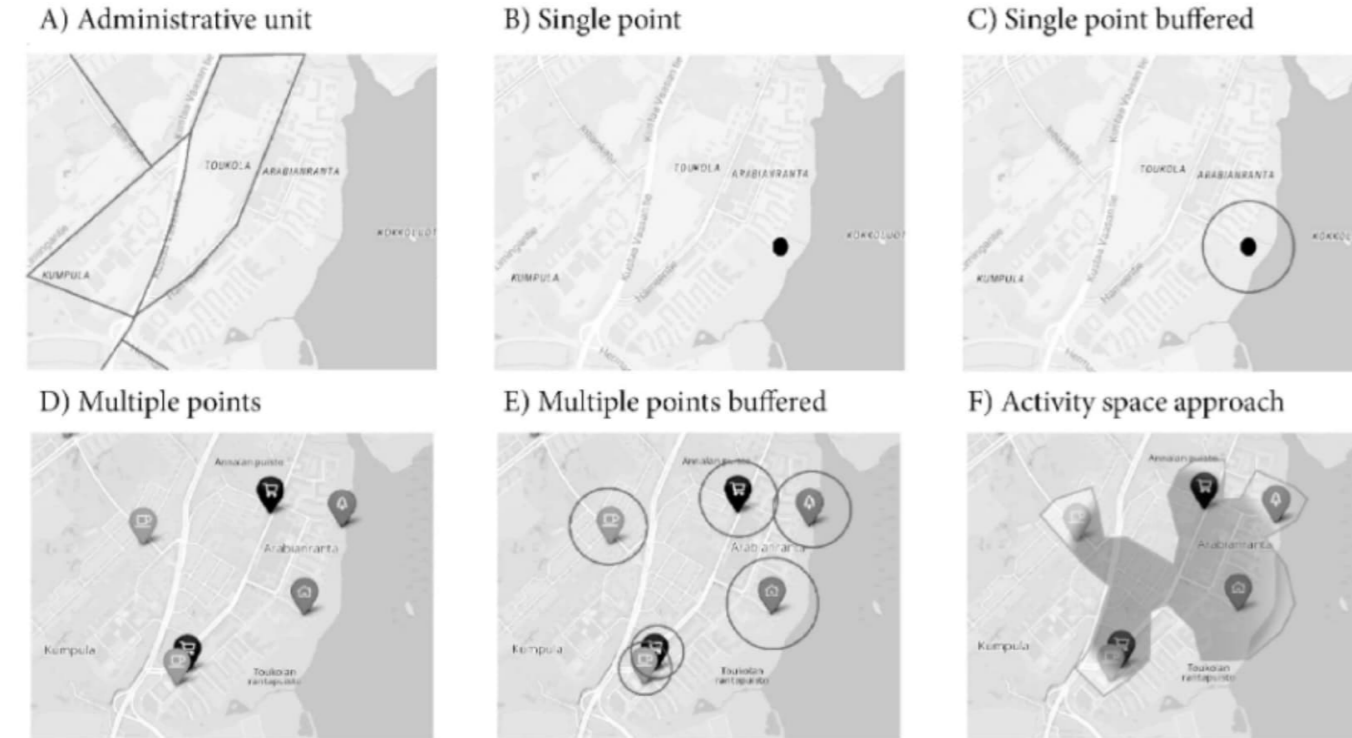
# ECOLOGICAL MODEL(S) OF ENVIRONMENTAL HEALTH PROMOTION



# RESEARCH ON THE HEALTH PROMOTIVE CHARACTERISTICS OF LIVING ENVIRONMENT



# THE METHODOLOGICAL APPROACHES USED IN SOCIAL ECOLOGICAL RESEARCH OVER TWO DECADES

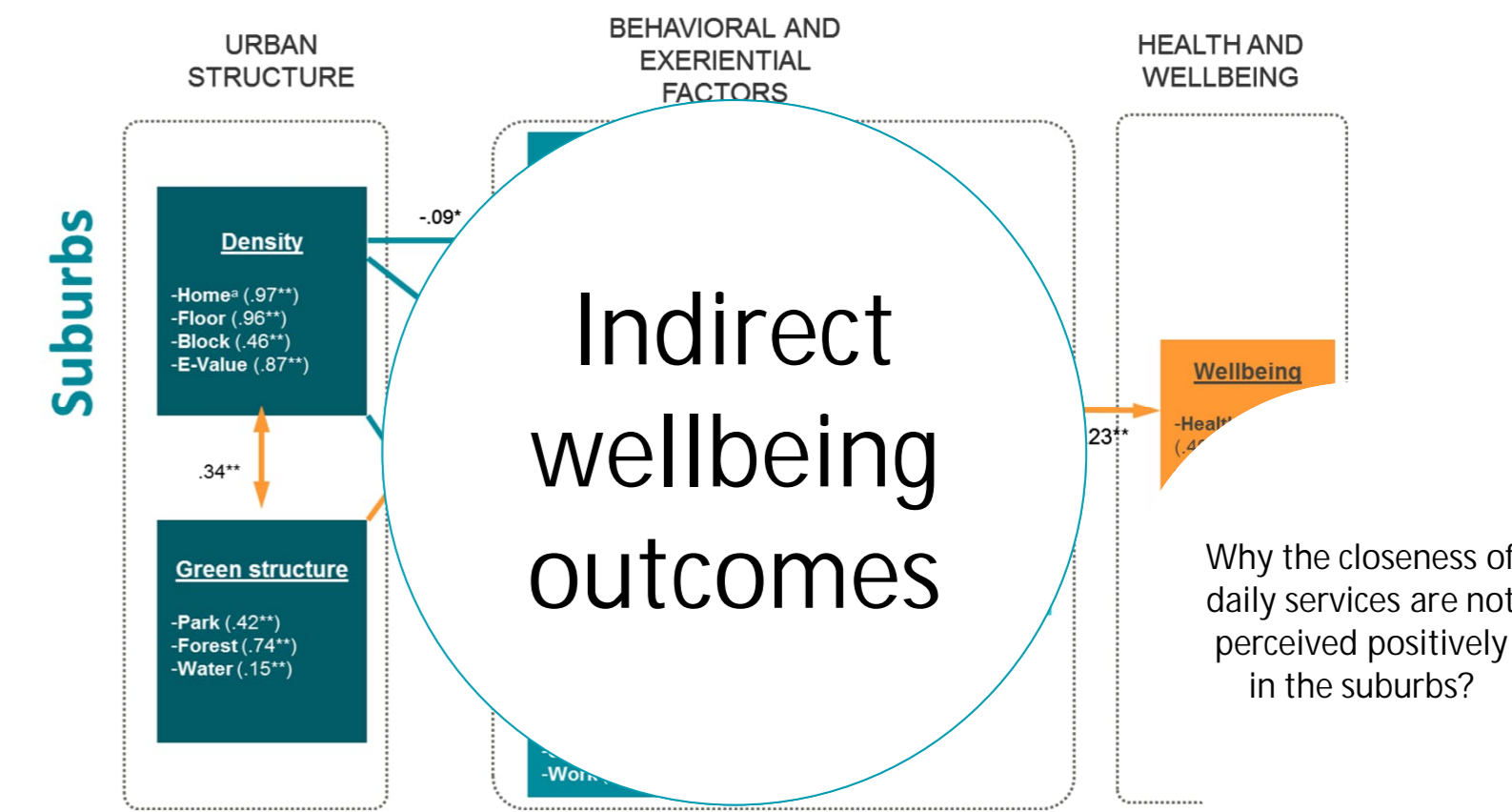
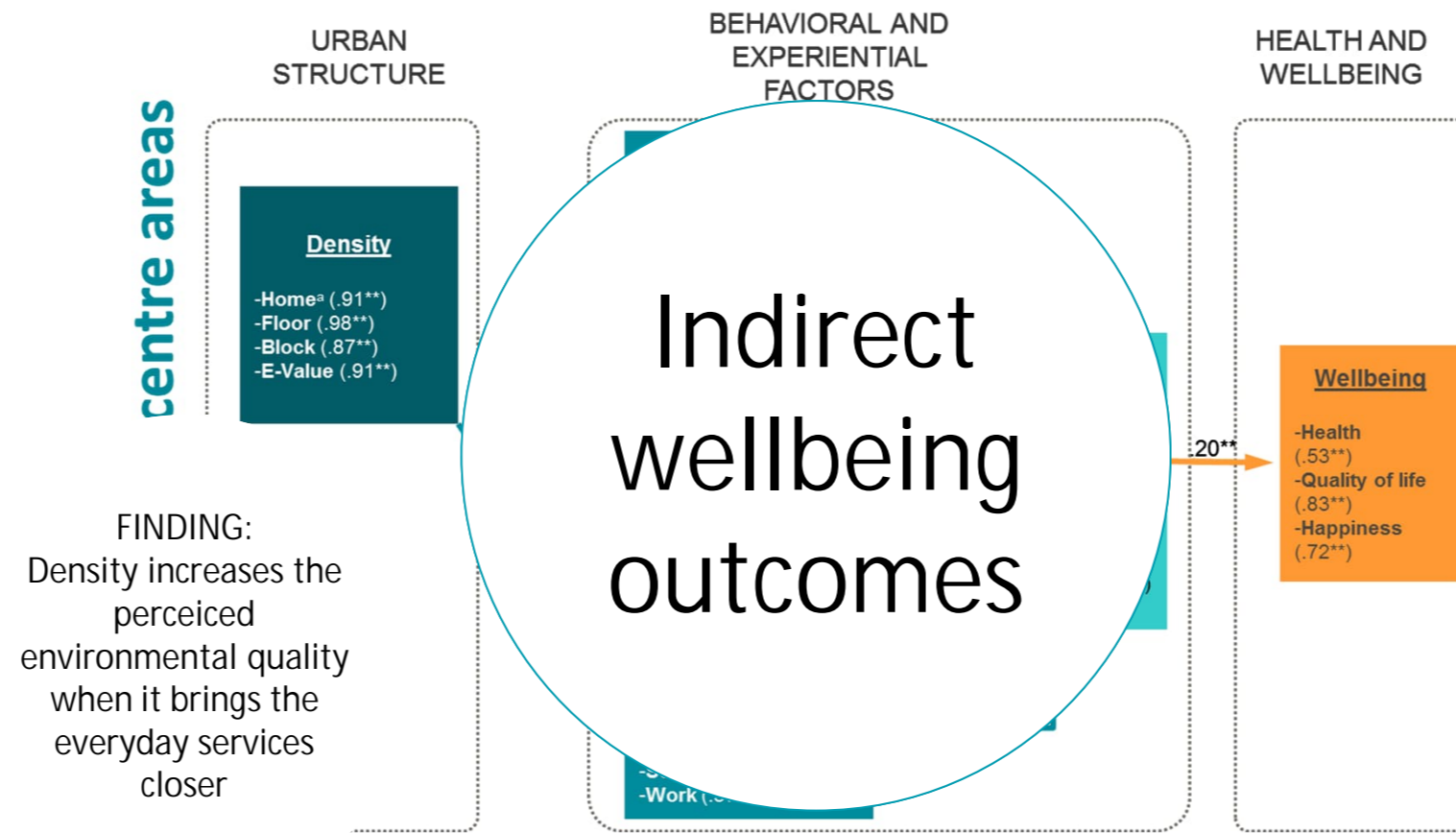


Rinne, T. Kajosaari, A. Soderholm, M. Berg, P. Pesola, A. Smith, M. & Kyttä, M. (2022) Delineating the geographic context of physical activities: A systematic search and scoping review of the methodological approaches used in social ecological research over two decades. *Health & Place*, 73, 102737.

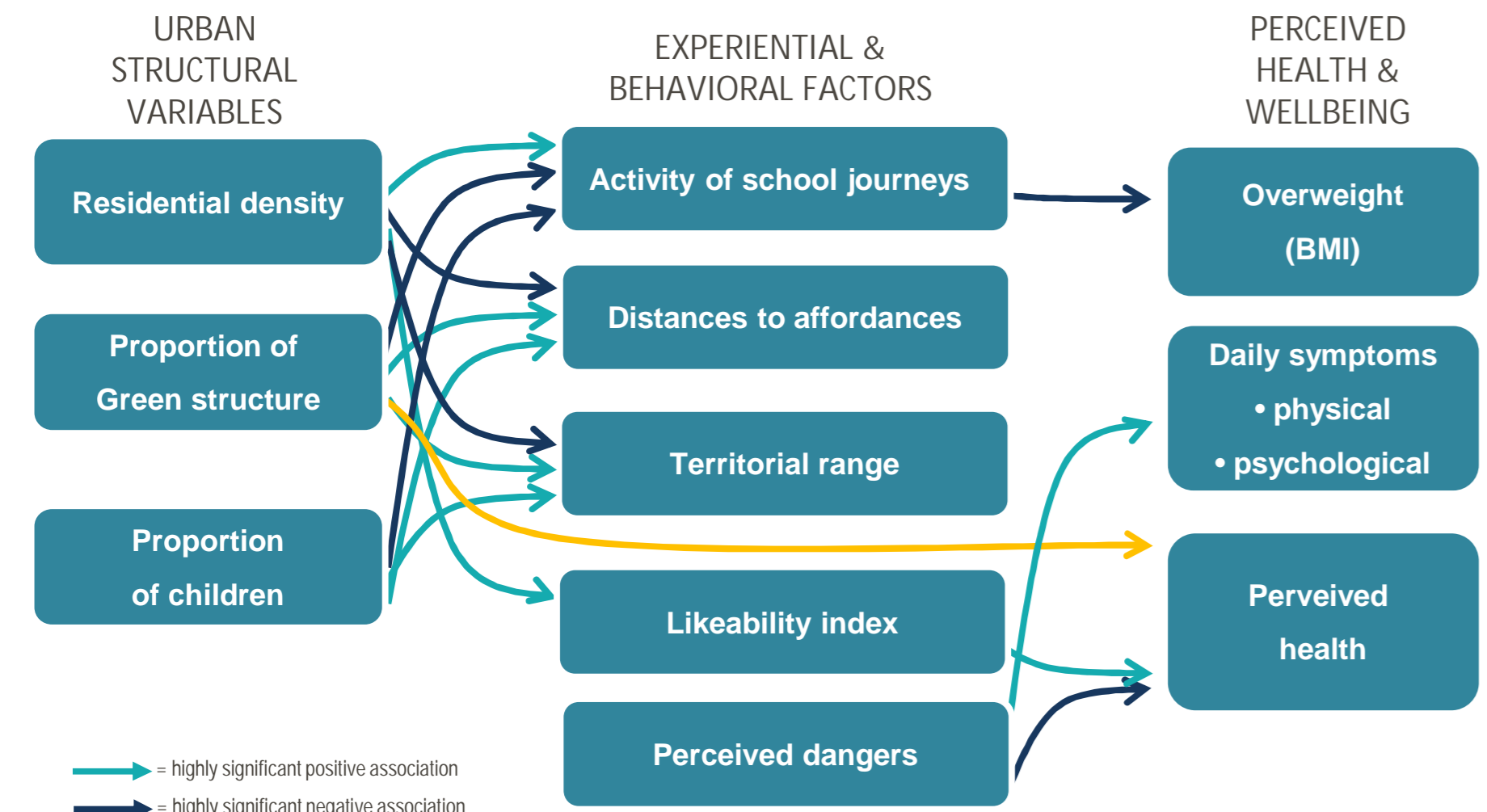
Our model: health is an outcome of socially sustainable environment



## CONTEXTUALLY VARYING ASSOCIATIONS



# Factors that predict childrens' environmental experiences and their perveived health and wellbeing



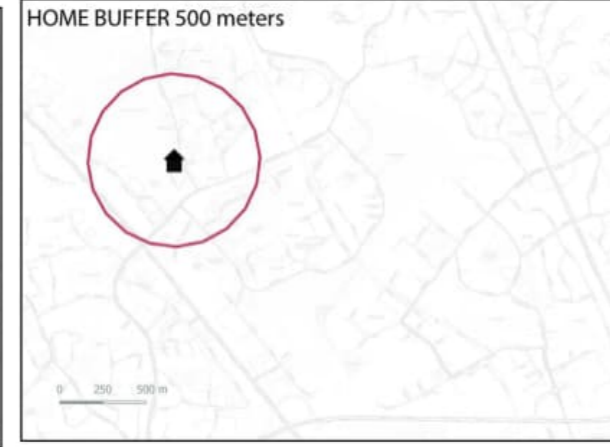
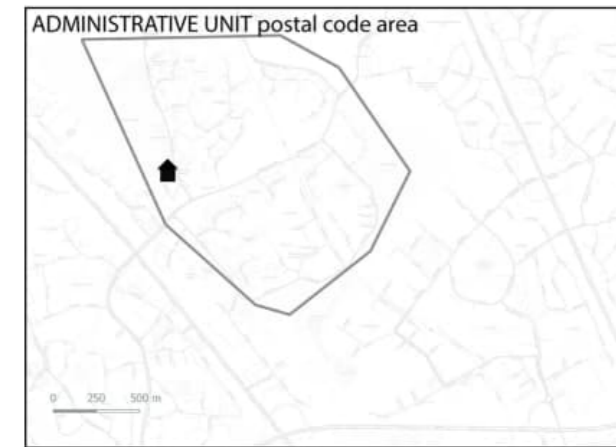
# PARALLEL FINDINGS FROM STUDIES OF CHILDREN



# DEFINING THE INDIVIDUAL, DYNAMIC ACTIVITY SPACE

Hasanzadeh, K. (2018) IASM: Individualized activity space modeler.  
*SoftwareX*, Volume 7, January - June 2018, Pages 138-142

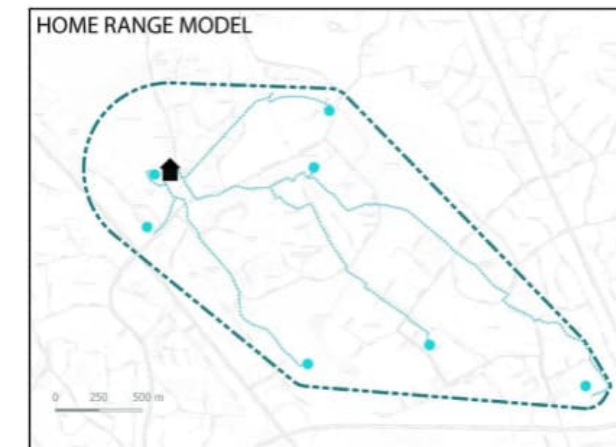
1. Static administrative area



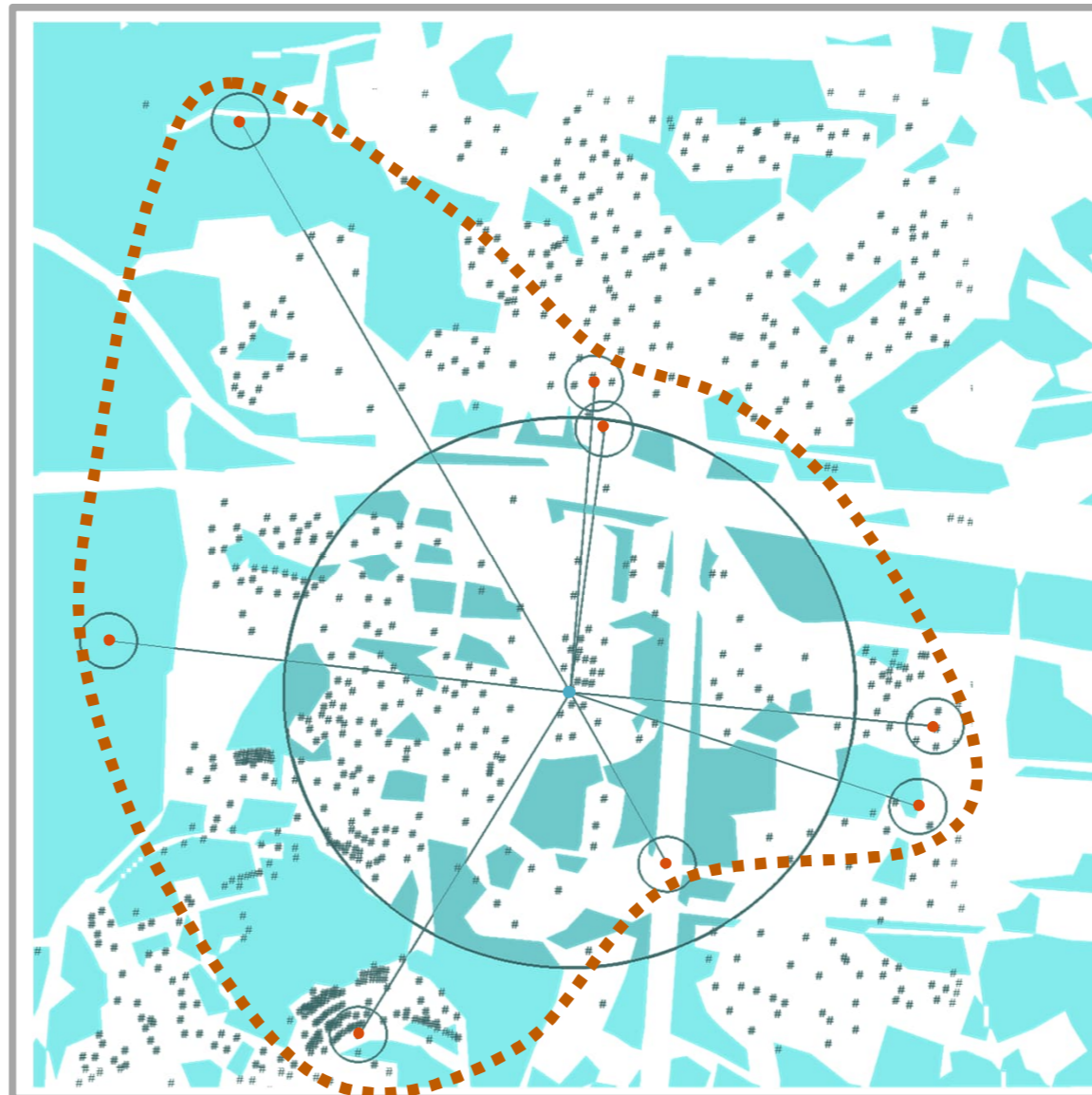
2. Static buffers around home

## WHAT IS THE PROBLEM?

3. Dynamic, individual activity space



4. Dynamic fabric of an individual activity space



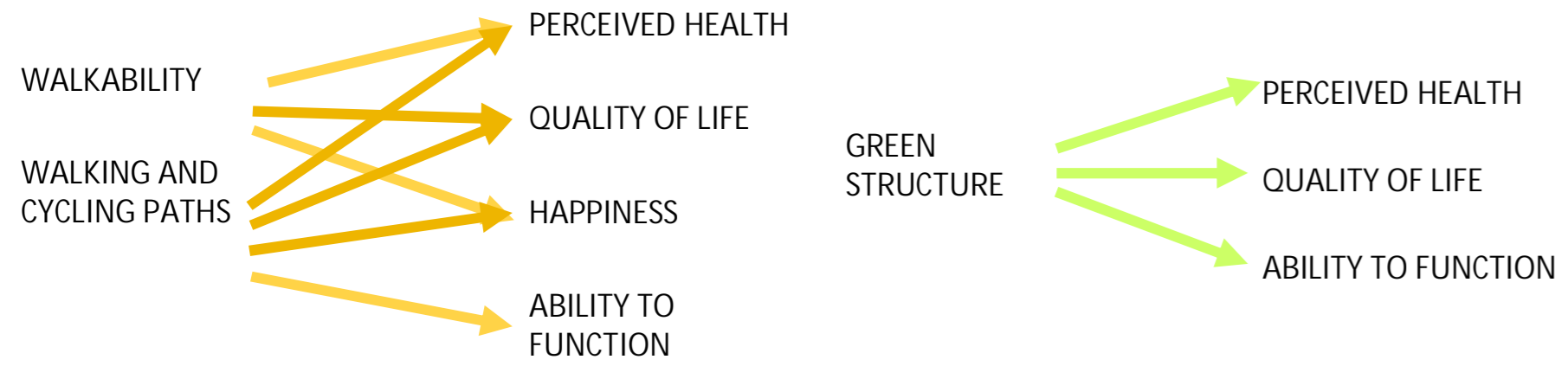
## ACTIVE AGING

PhD project:  
**Tiina Laatikainen**

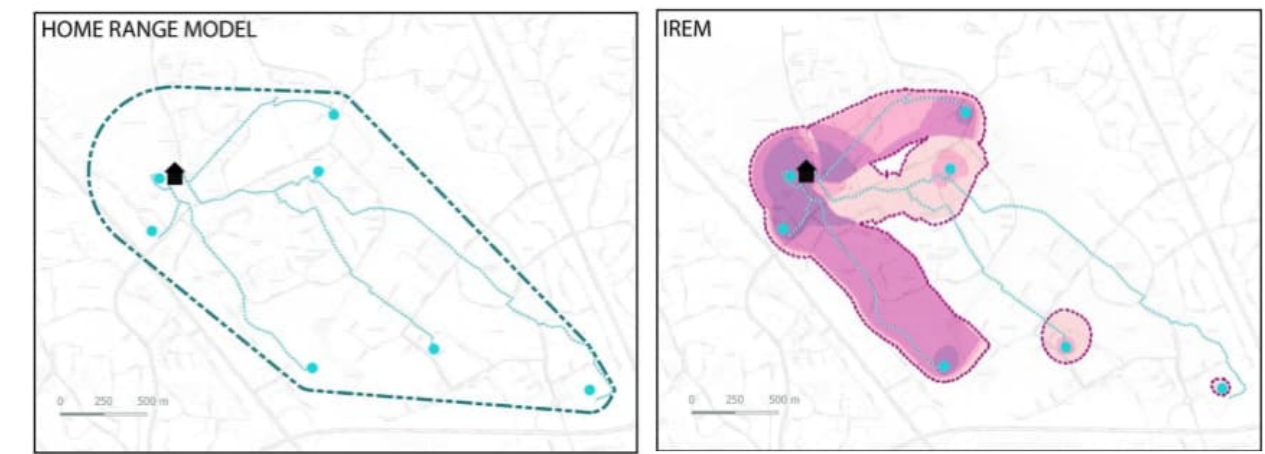




# AGAIN: HOW ABOUT HEALTH & WELLBEING?



3. Dynamic, individual activity space

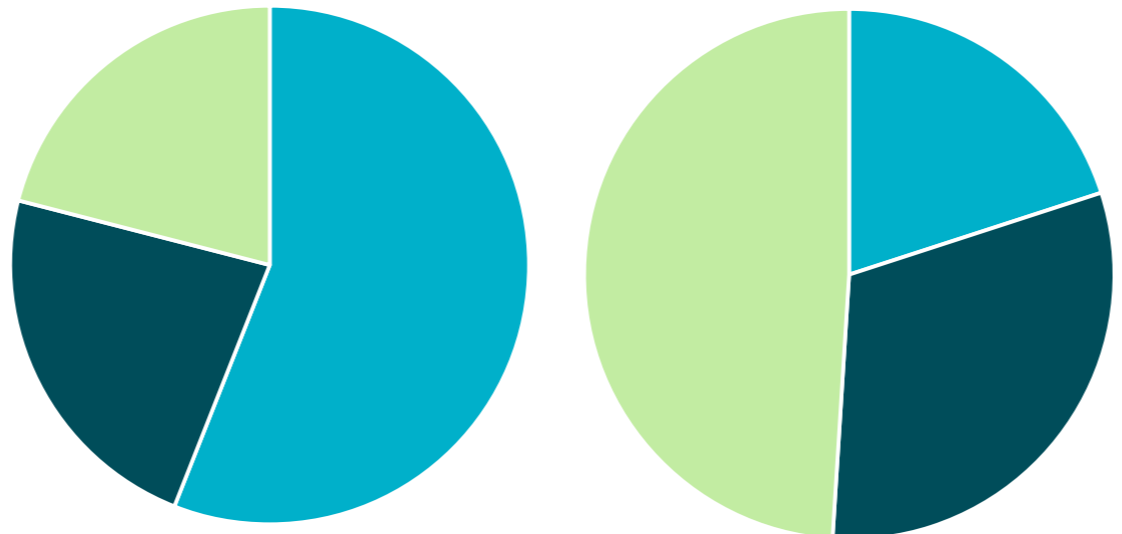


4. Dynamic fabric of an individual activity space

# SOME RESULTS

## OLDER ADULTS

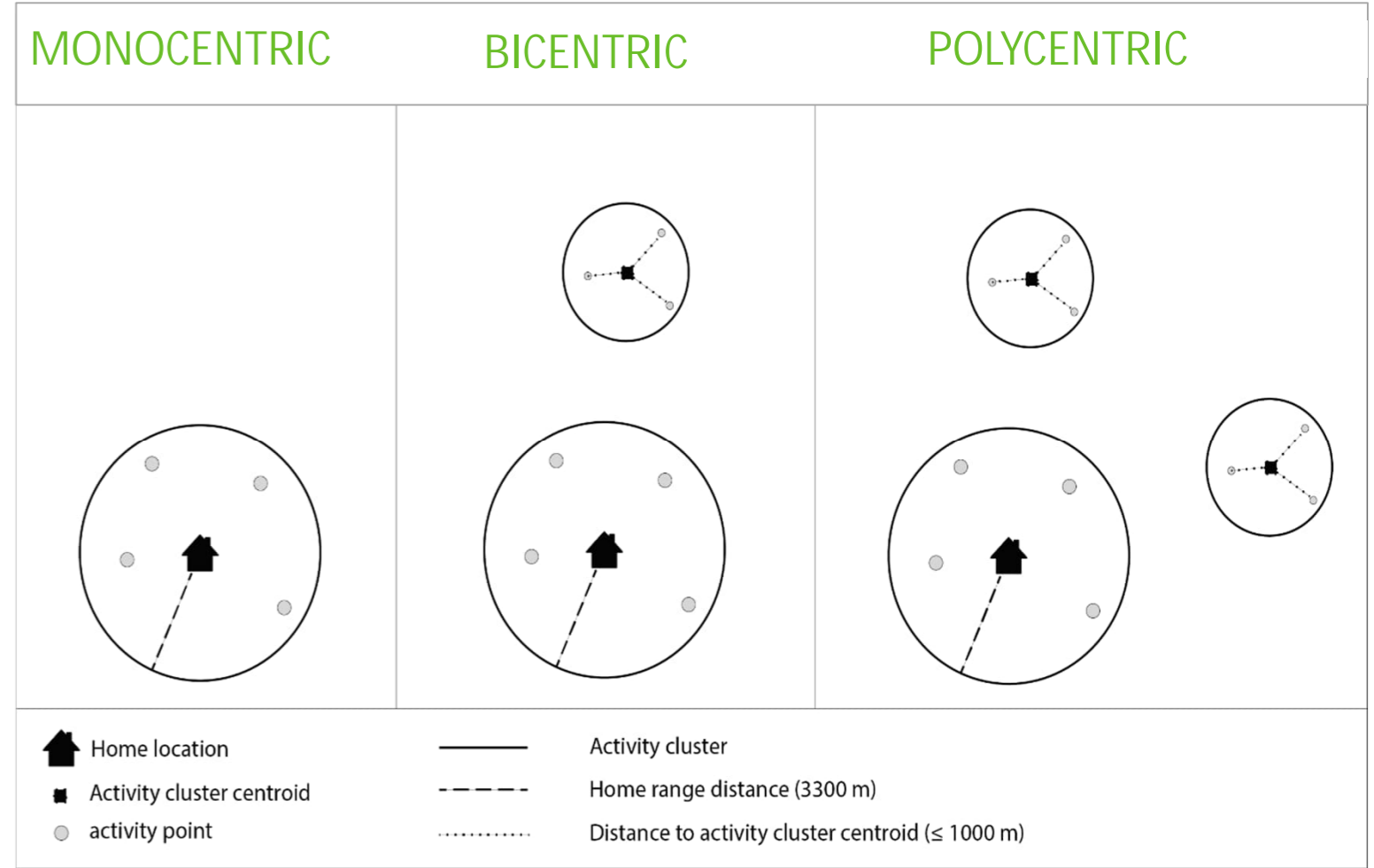
## YOUNG ADULTS



- Monocentricity & perceived health
- In both groups, monocentric lifestyle was associated with better perceived health
- Polycentricity & quality of life
- Among young adults monocentric lifestyle was also associated with higher perceived quality of life
  - Among older adults polycentric lifestyle was associated with lower perceived quality of life

*Hasanzadeh et al. 2020*

# ACTIVITY SPACE TYPOLOGY



# RECENT STUDY: 14 CITIES, 10 COUNTRIES, 5 CONTINENTS

## Urban structural characteristics promoting active living:

- Population density  $p=0.001$
- Intersection density  $p=0.019$
- Public transportation stop density  $p=0.0007$
- Number of parks  $p=0.010$

**68–89**  
min/week  
more  
physical  
activity

Sallis, J.F. et al. (2016) Physical activity in relation to urban environments in 14 cities worldwide: a cross-sectional study. *The Lancet* 6736(16):348.

# TO CONCLUDE: RESEARCH ON THE HEALTH PROMOTIVE CHARACTERISTICS OF LIVING ENVIRONMENT



# LINEAR PARKS!

Brown, G. Schebella, M.F. & Weber, D. (2014) Using participatory GIS to measure physical activity and urban park benefits. *Landscape and Urban Planning*, 121, 34-44.



# Helsinki Master Plan project: Locations for infill development

Support for the idea of urban boulevards?



**EE**

Everyday mobility +  
Exposure to vitamin Green



## How about joint effects?

Tainio et al. (2016) Can air pollution negate the health benefits of cycling and walking? Preventive Medicine, Volume 87, June 2016, Pages 233–236

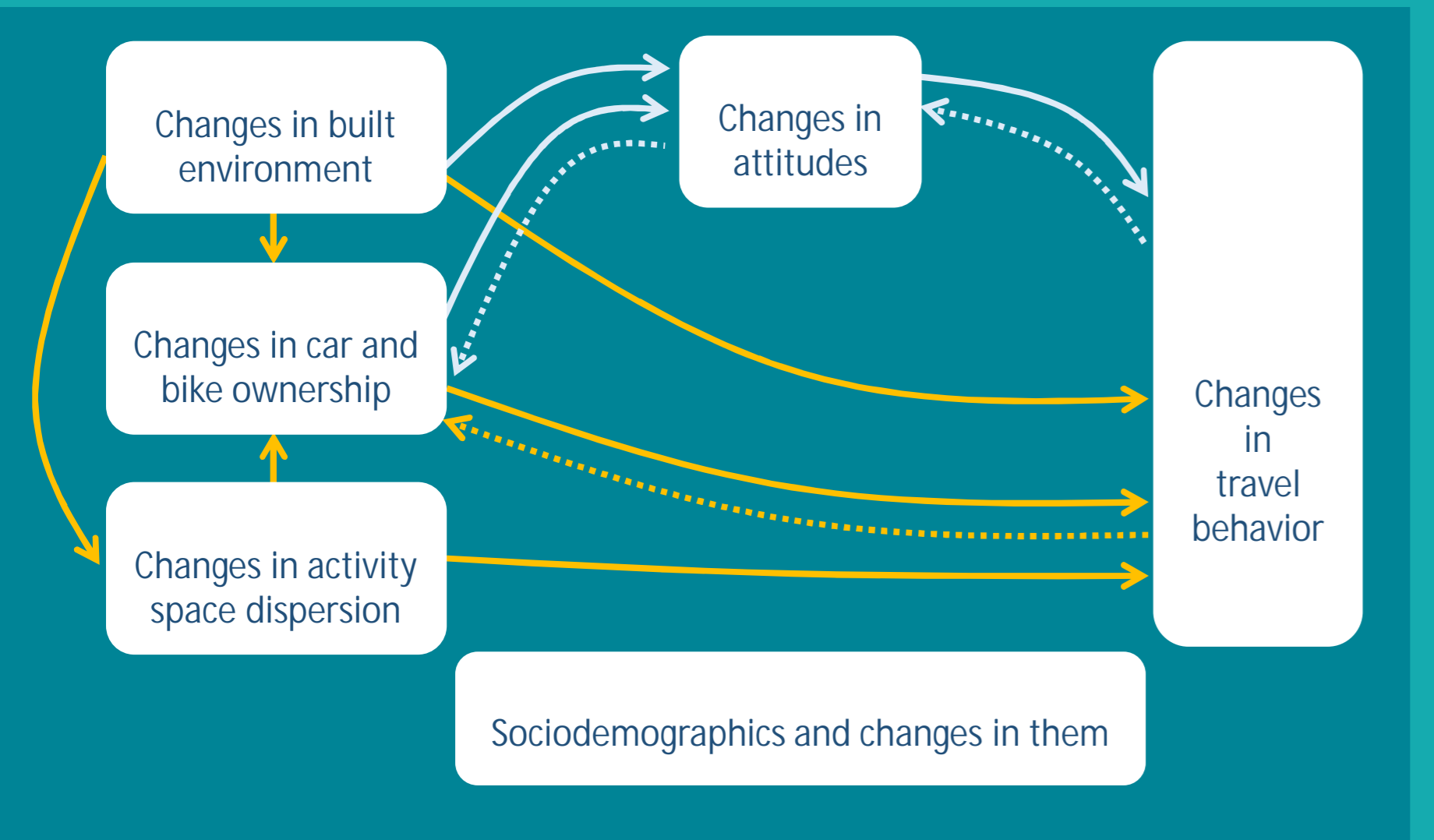
Active living?

Noise?

Air quality?

Access to green areas?

PASILA 3 MIN  
KAMPPI 3 MIN

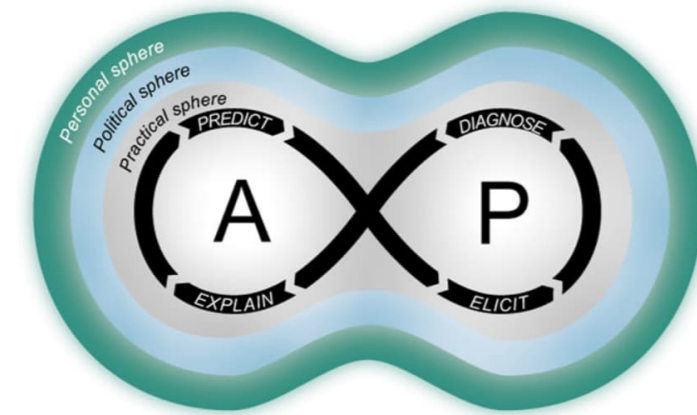
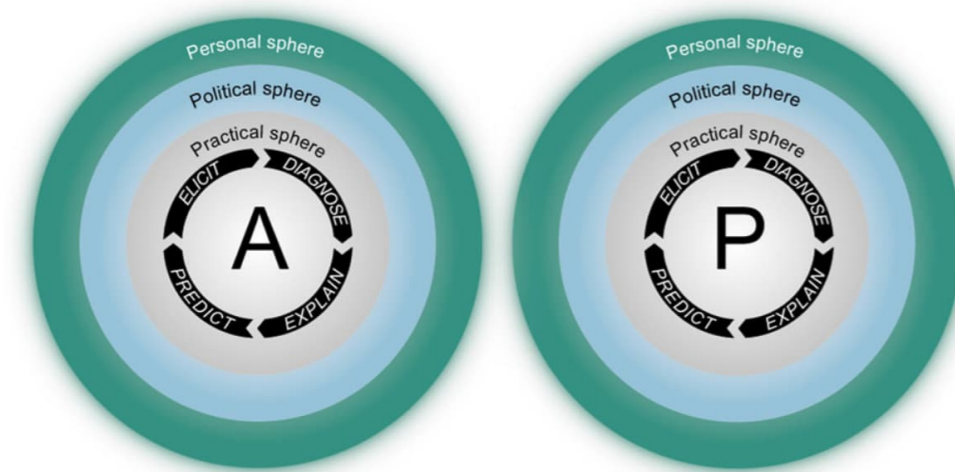


# CAN ATTITUDES CHANGE AND NUDGING WORK?

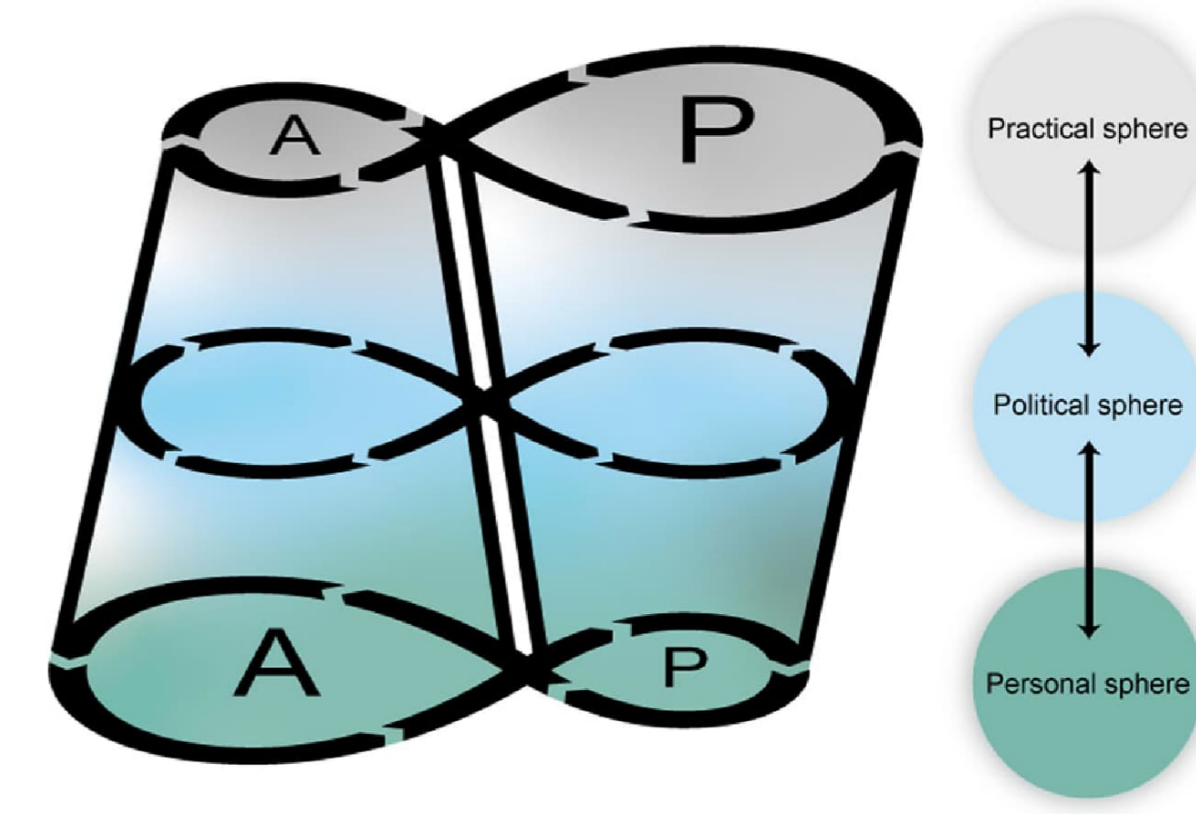
## THE STUDY OF PEOPLE MOVING FROM ONE TYPE OF A NEIGHBOURHOOD TO ANOTHER

Ramezani, S. et al (2020) Residential relocation and travel behavior change: investigating the effects of changes in the built environment, activity dispersion, car and bike ownership, and travel attitudes. Submitted to Transportation Research Part A: Policy and Practice.





# NEW, FINNISH ACADEMY FUNDED RESEARCH PROJECT: TRANSFORMATIVE CITIES





**THANK  
YOU!**