

Examining the role of the physical environment in supporting older adults' and children's' health behavior

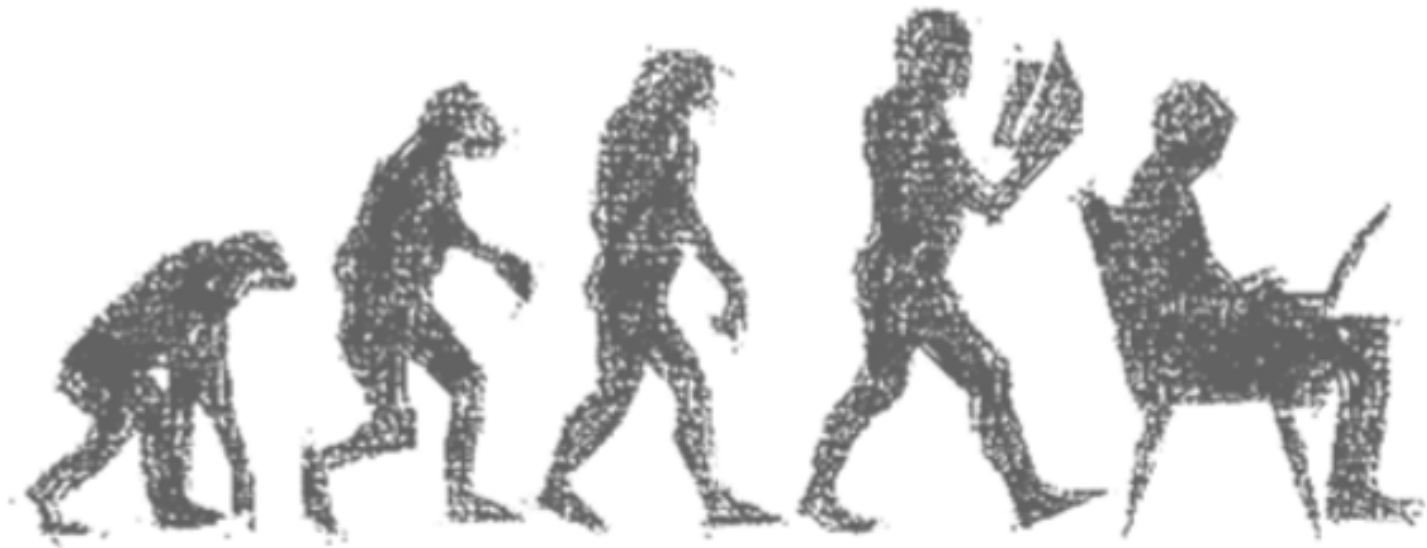
Tiina Rinne

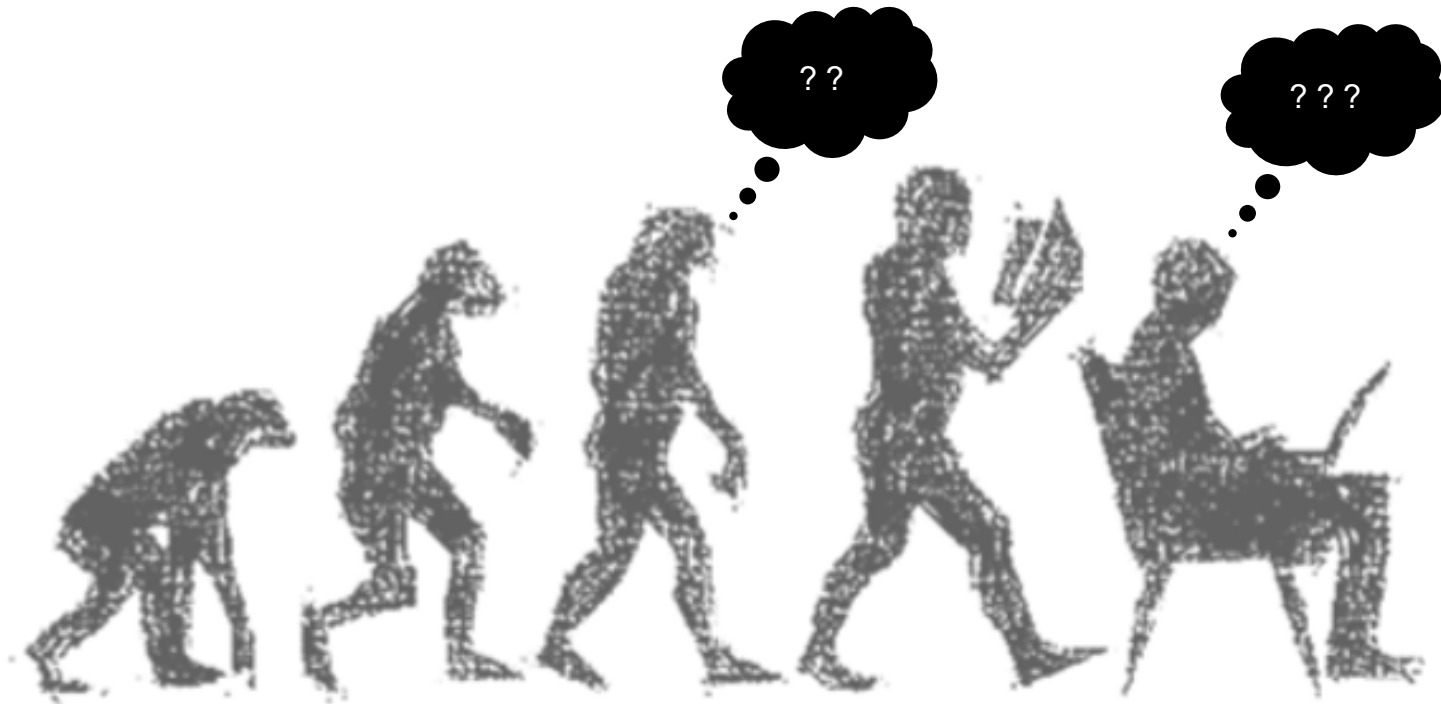
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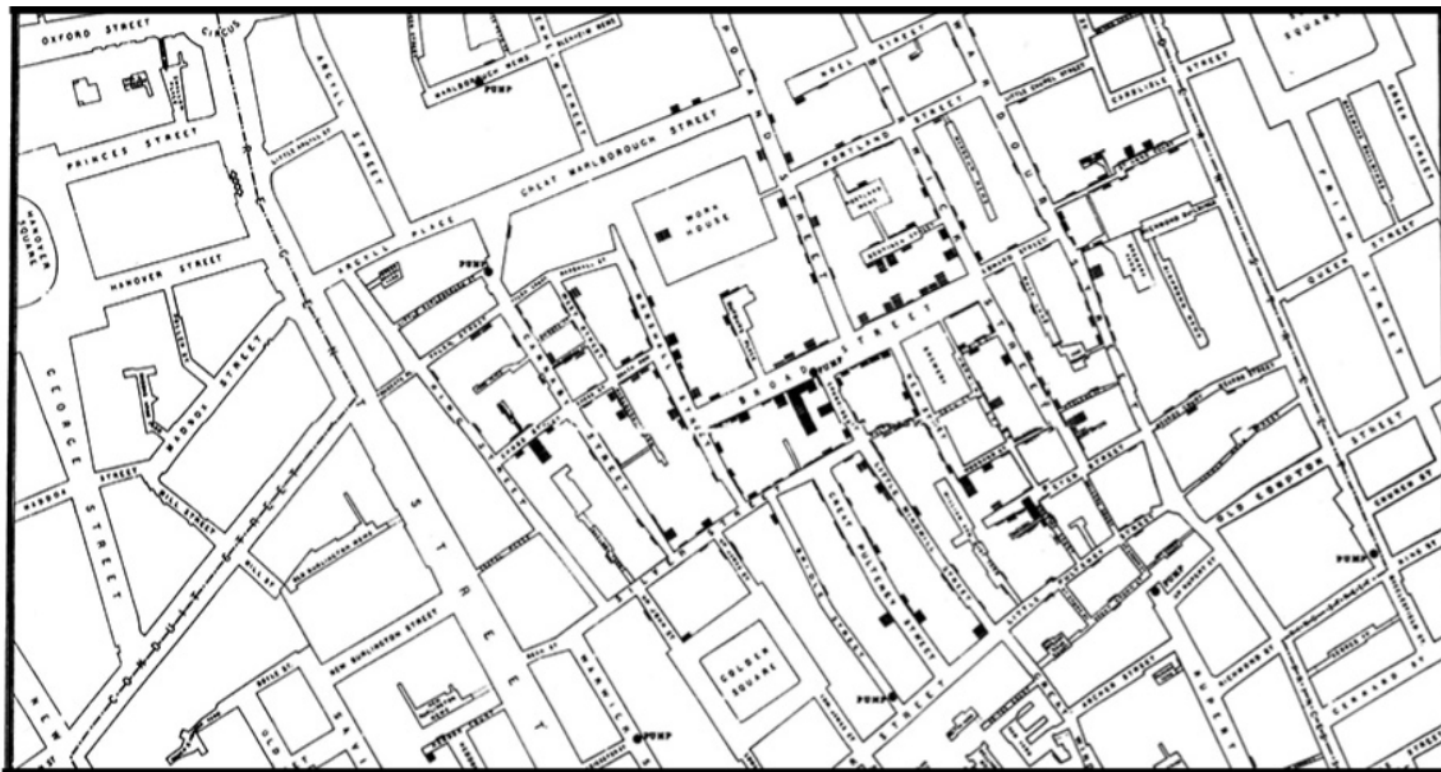


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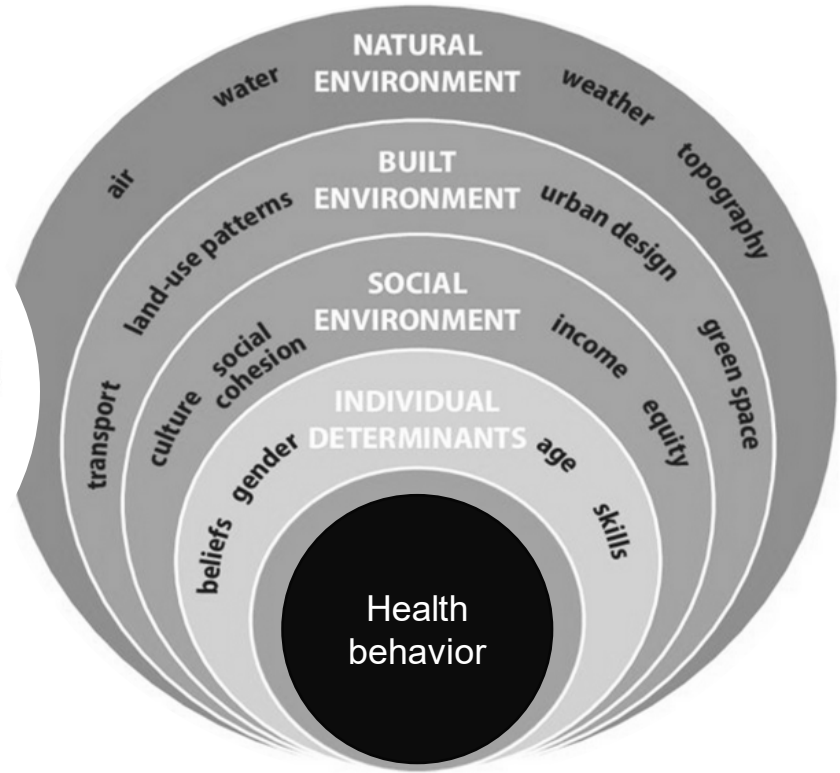
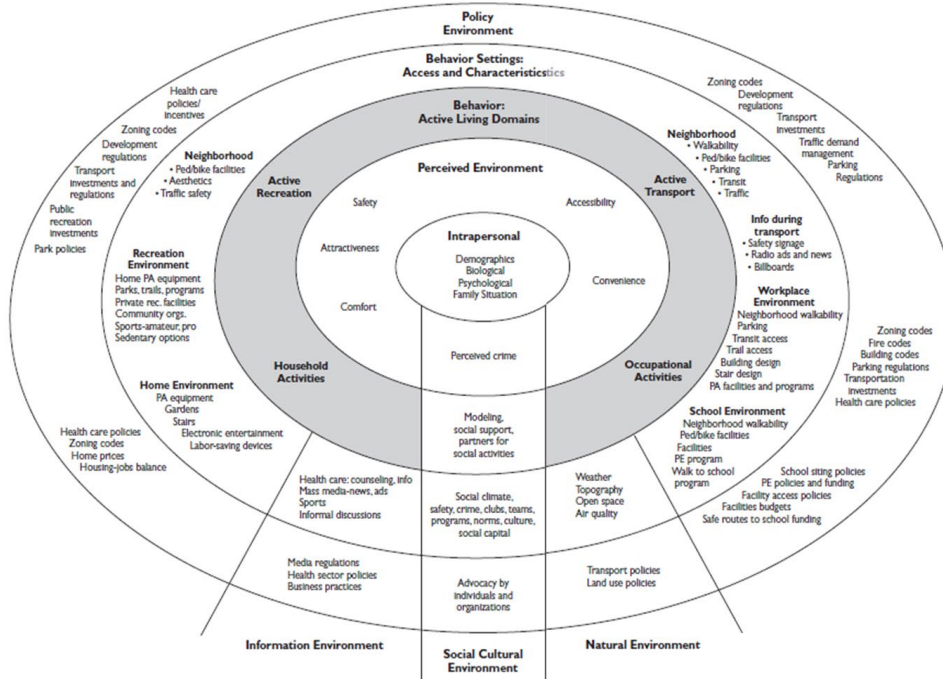








Ecological models of health behavior



The two waves of environment & health research



Environmental health promotion effects 1990 →

Effects of environmental health hazards,
Environmental (in)justice ~ 1970 →

What does place-based research tell us about the supportive environments for active ageing?



”But can older adults even use it?”

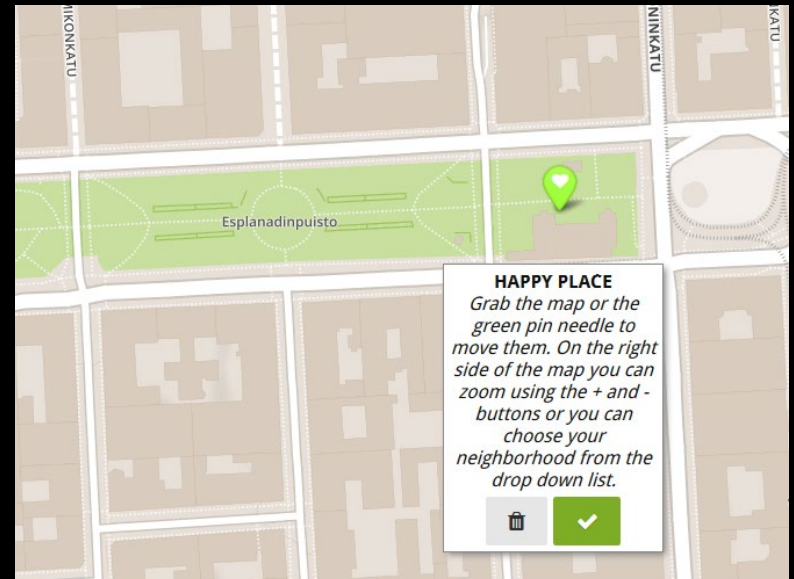
“Older adults represent the fastest growing Internet user age group that is due both to the ageing nature of society and to the fact that an increasing percentage of older adults are now using the Internet”

Nielsen, J., N/N G., 2013. Seniors as Web Users. N/N Group Blog.

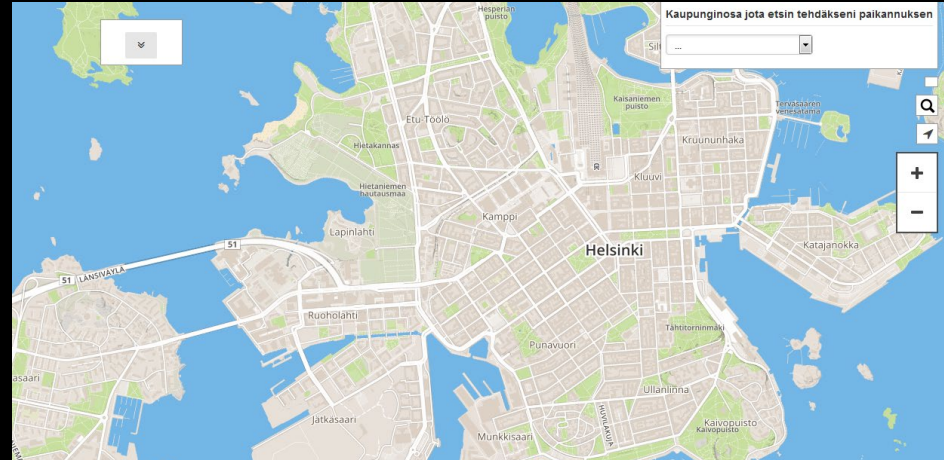


Usability of PPGIS among older adults

(Gottwald, Laatikainen, Kyttä 2015)



Usability of PPGIS among older adults



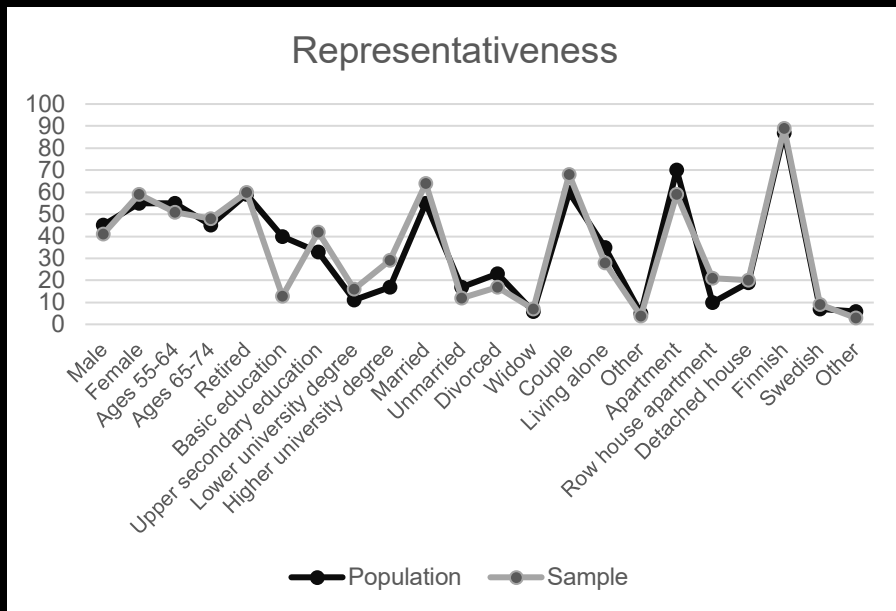
So... how did it go?

**Sent out a digital
participatory
mapping survey**



**Ageing residents
actually replied to it**

How did it go?



How personal,
psychological and
environmental
features are
associated with
walking behavior in
older adults?

Mark your everyday places on the map

Think about your typical week and mark on the map all sorts of EVERYDAY PLACES you visit during the week.

Outdoor and sports facilities

*E.g. park, outdoor sports facility, stadium, sport field,
playground*



Shopping

*E.g. department store, supermarket, shopping center, market,
special store*



Offices, bureaus, businesses

E.g. bank, post office, medical center, hairdresser

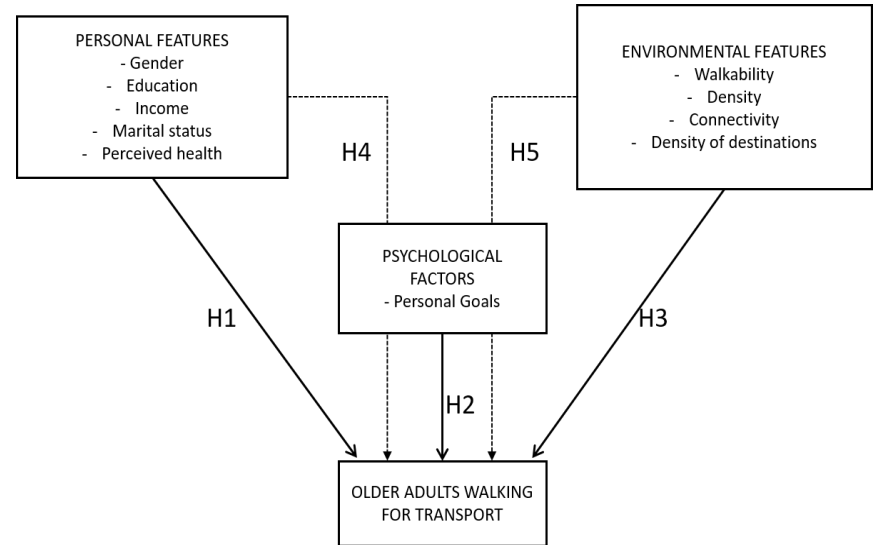
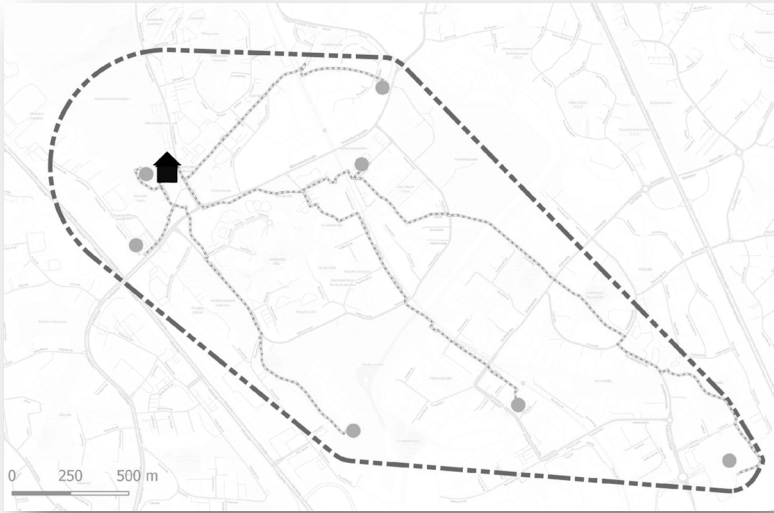


Leisure and recreational places

*Visit friends or relatives, restaurant, café, library, church,
gallery, museum, adult education, summer cottage*



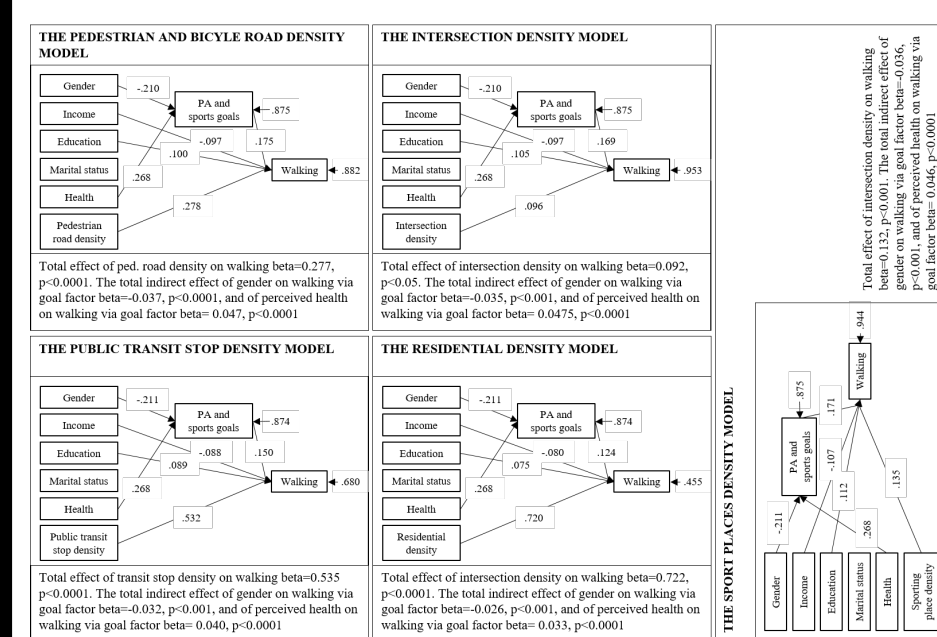
PM data, home range model and statistical multilevel modelling



(Laatikainen, Haybatollahi, Kyttä 2019)

How personal, psychological and environmental features are associated with walking behavior in older adults?

We tested separate OLS regression models for each of the five density measures and the indirect effects of personal as well as environmental variables on walking via PA and sport goal factor was examined using structural equation modeling.



How personal, psychological and environmental features are associated with walking?

PERSONAL FEATURES

ENVIRONMENTAL FEATURES

Personal background features

Income

1. -0.097* / 2. -0.097* / 3. -0.080* /
4. -0.088* / 5. -0.107*

Education

1. 0.100* / 2. 0.105** / 3. 0.075* / 4.
0.089* / 5. 0.112**

Gender 1-5 between -0.026 and -0.037***

Perceived health 1-5 between 0.033 and 0.0475***

Physical activity and sports related personal goals

1. 0.175*** / 2. 0.169*** / 3. 0.124*** / 4. 0.150*** /
5. 0.171***

Physical environment features

1. Pedestrian street density 0.278***
2. Residential density 0.720***
3. Public transportation stop density 0.532***
4. Intersection density 0.092*
5. Sport & rec. places density 0.135**

OLDER ADULTS WALKING

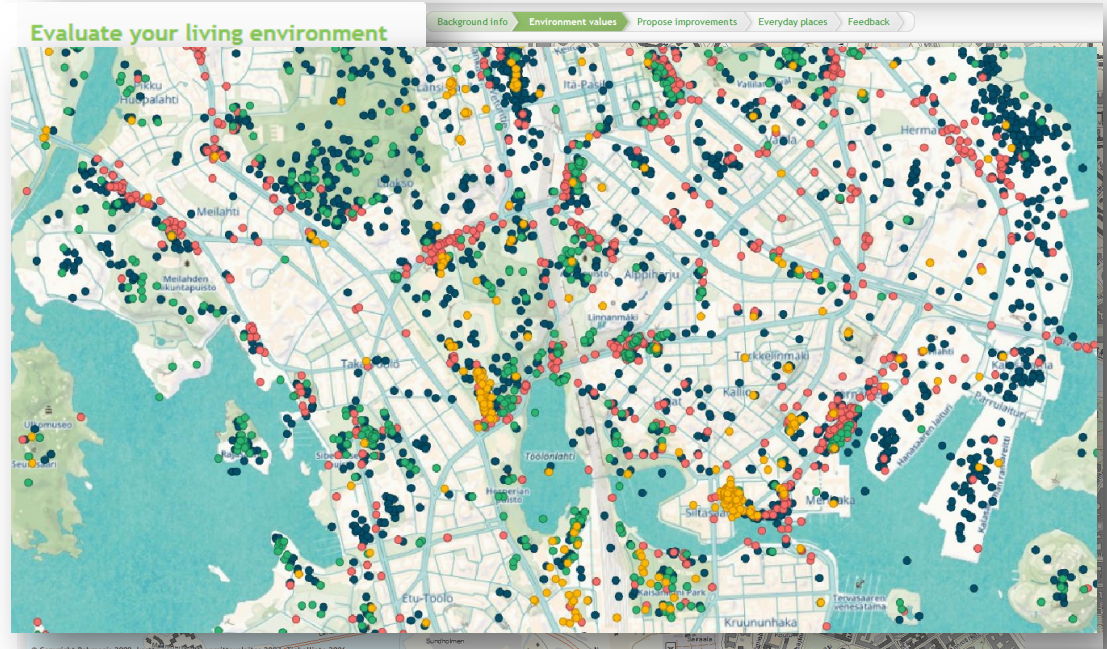
What does place-based research tell us about the child-environment interactions - the wellbeing perspective



Perceived quality of the built environment – are there differences between age groups?

•12 257 positive environmental quality places

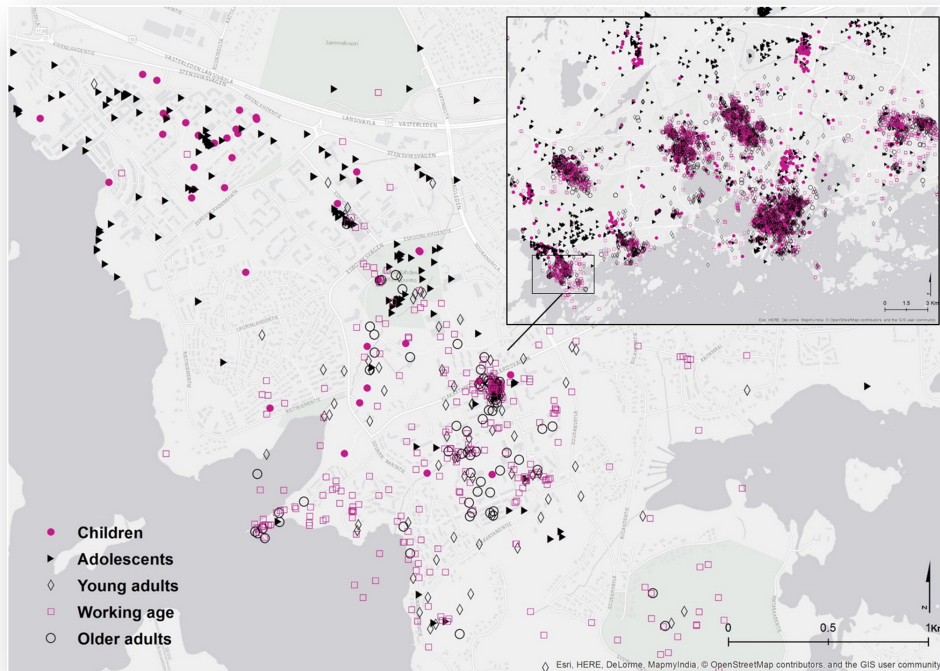
- Children 844
- Adolescents 1597
- Young adults 3418
- Working age 5658
- Older adults 746



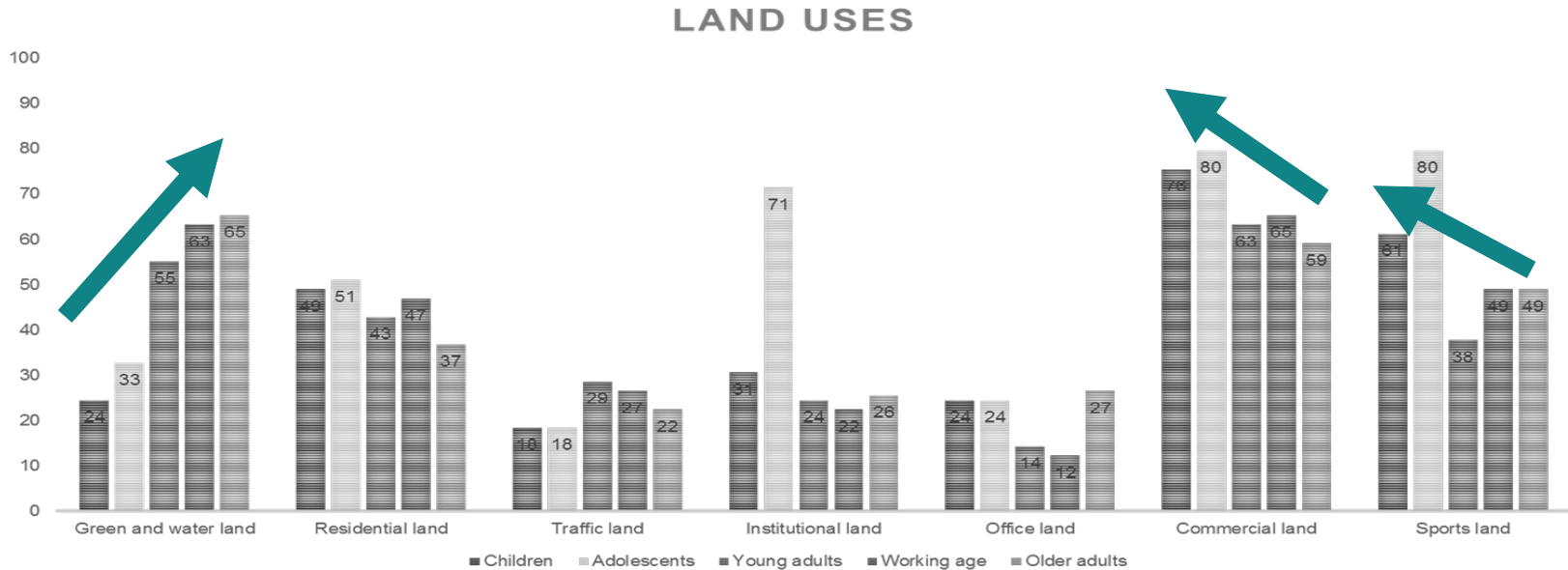
(Laatikainen, Broberg, Kyttä 2018)

Perceived quality of the built environment – are there differences between age groups?

- Places perceived as being positive differ in their physical environment among age groups.
- Adult age groups: green and blue spaces
- Children and adolescents: Sports, residential, institutional and commercial spaces
- Adolescents' places were the most distant while older adults' positive places were found to be closest to home.

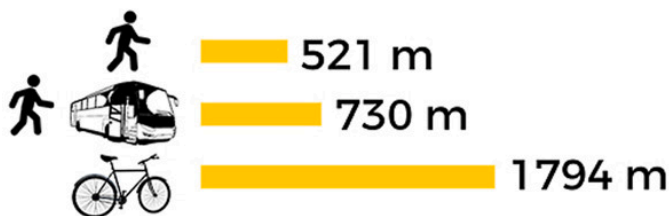


Perceived quality of the built environment – are there differences between age groups?



Free-fare public transportation is associated with less cycling , but more walking to bus stops

Median distance per one-way trip



Reference:

Pesola, AJ, Hakala, P, Berg, P, Ramezani, S, Villanueva, K, Rinne, T. The Effects Of Free-Fare Public Transportation On The Total Active Travel In Children: A Cross-Sectional Comparison Between Two Finnish Towns. Journal of Transport & Health

 @ArtoPesola

Mikkeli, free-fare public transport

Total active travel

3.2
hours/week

Kouvola no free-fare public transport

Total active travel

3.3
hours/week

$P=0.749$

Children reporting >5 trips per week

44%



59%

$P=0.006$

23%



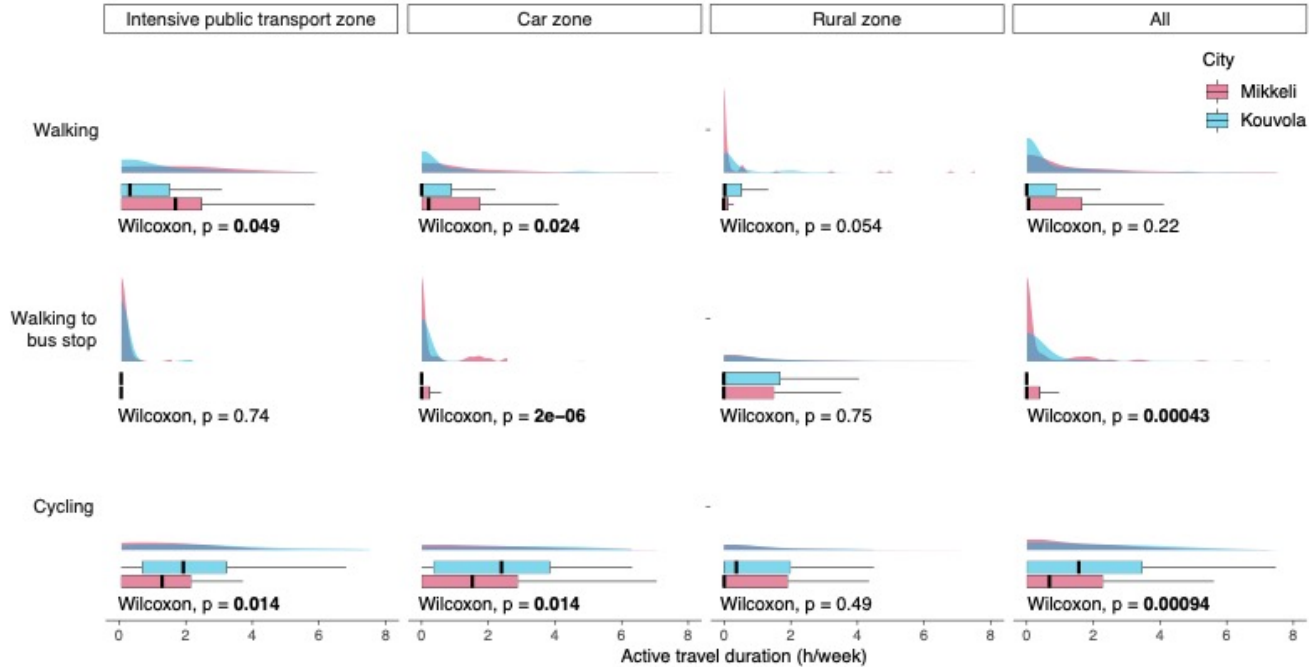
13%

$P<0.001$


Finland



Results



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