

Child-Friendly Environment





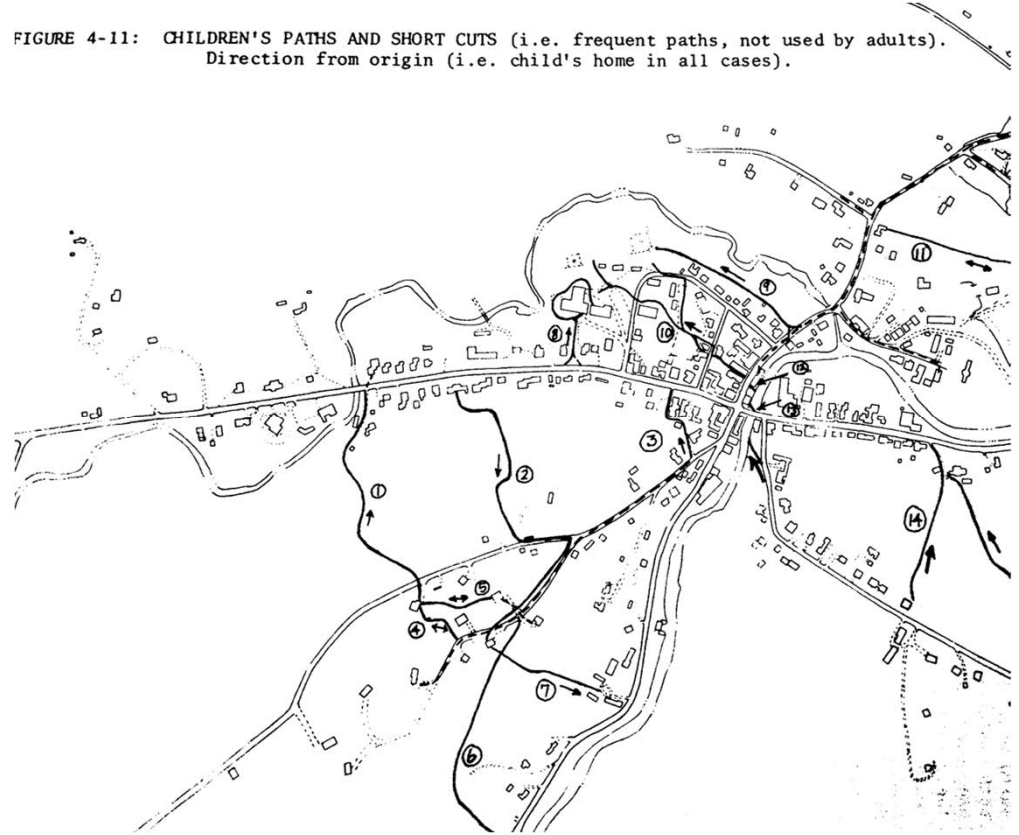
Your childhood
experiences?

Classic studies about environmental childfriendliness

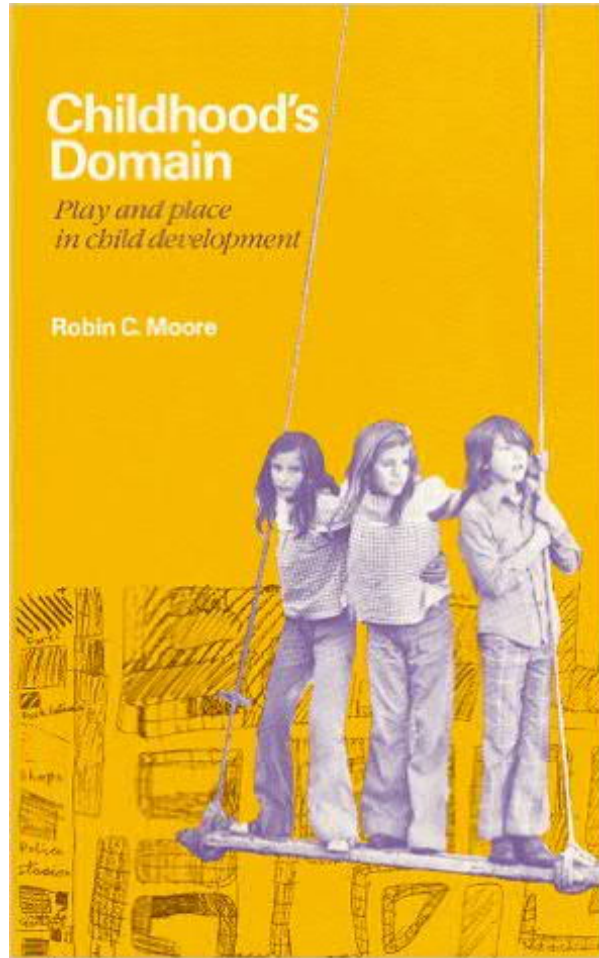
Roger Hart (1979) Children's Experiences of Place



FIGURE 4-11: CHILDREN'S PATHS AND SHORT CUTS (i.e. frequent paths, not used by adults).
Direction from origin (i.e. child's home in all cases).

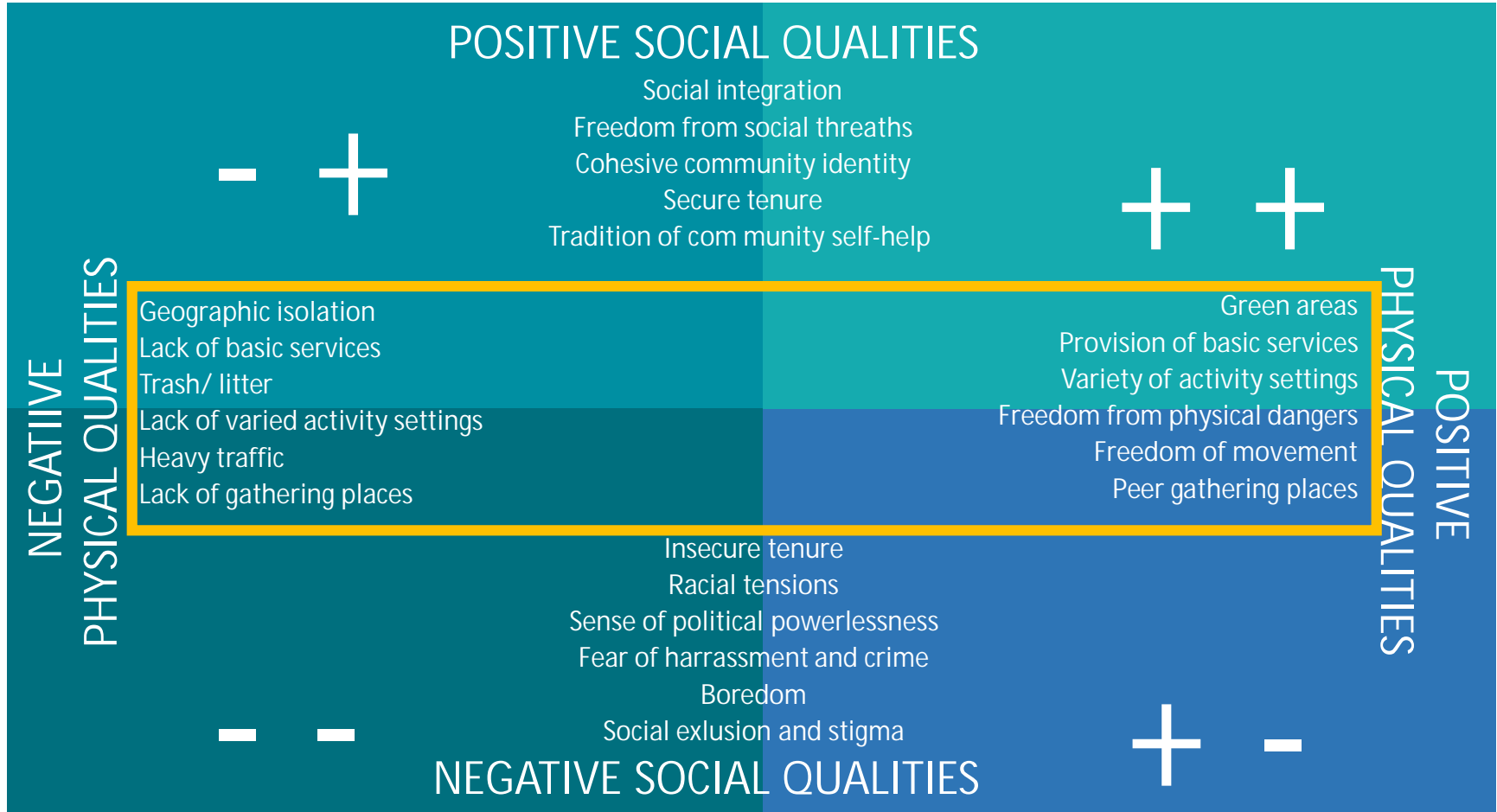


Robin Moore (1986) Childhood's Domain



<https://naturalearning.org/>

Indicators of environmental quality defined by children



Fenced childhood?



PROBLEMS CONNECTED TO CHILDREN'S MOBILITY RESTRICTIONS

INDIVIDUAL

Physical development (Hüttenmoser 1995; Armstrong 1993; Davis & Jones 1996)

Social development (Prezza et al 2001)

Cognitive development (Biel & Torell 1977; Blades 1989; Rissotto & Tonucci 2002)

Emotional development (Kong 2000; Corbishley 1995)

SOCIETAL

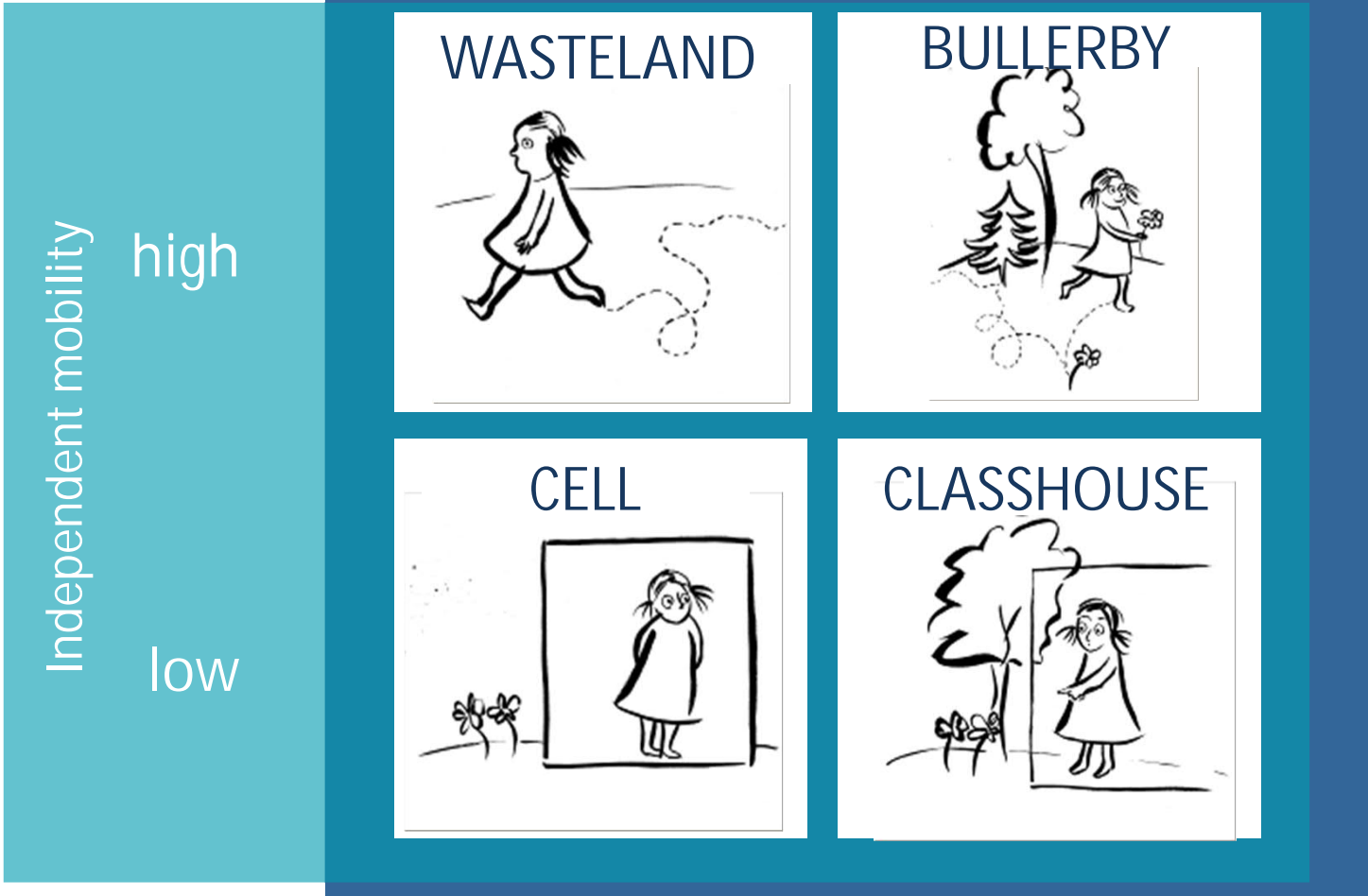
Time used for chauffeuring (Tillberg Mattson 2000)

Mothers' working (Gershuny 1993)

Traffic jams (Bradshaw 1999)

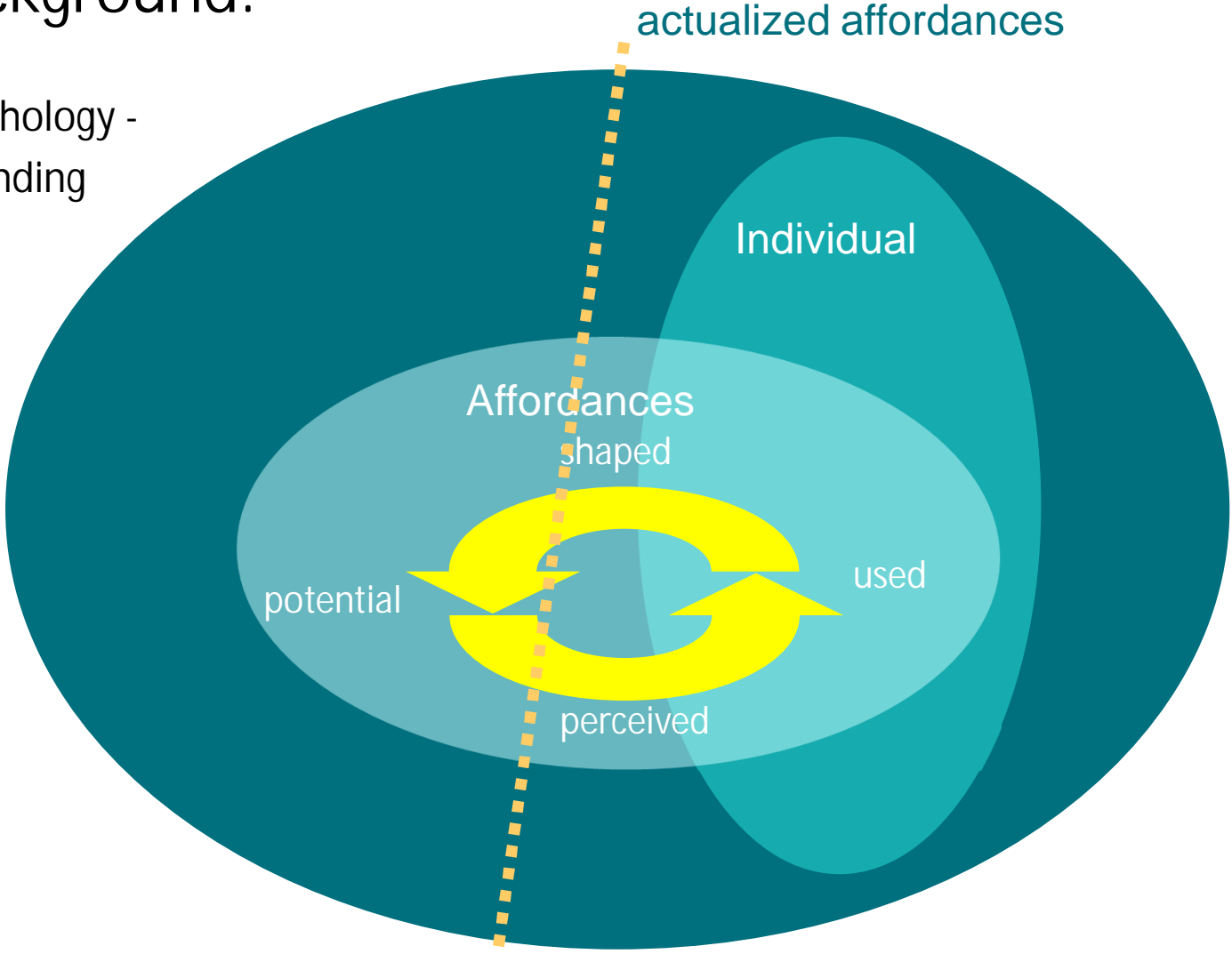
Environmental childfriendliness

Kyttä (2003)

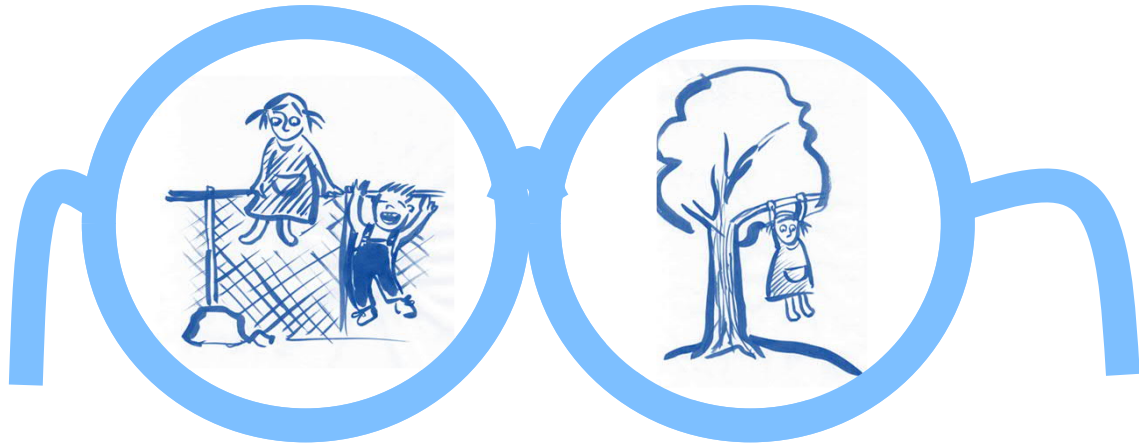
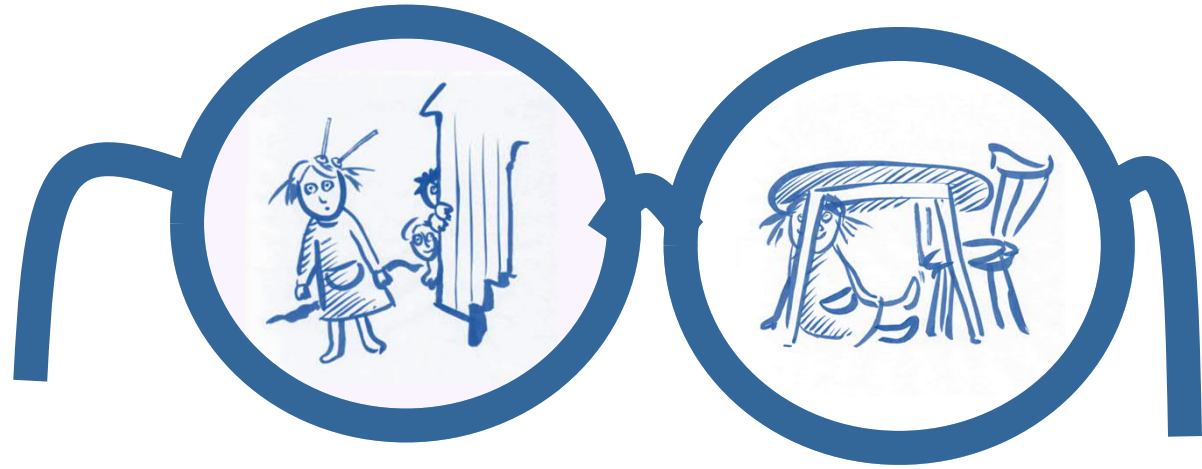


Theoretical background:

Gibson's ecological psychology -
a nondualistic understanding
of persons-in-context



Affordance 'spectacles'



Affordances of urban environment



WASTELAND	BULLERBY
CELL	CLASSHOUSE

BULLERBY

Possibilities for independent mobility reveal many affordances. The actualization of affordances motivates further exploration and mobility in the environment.

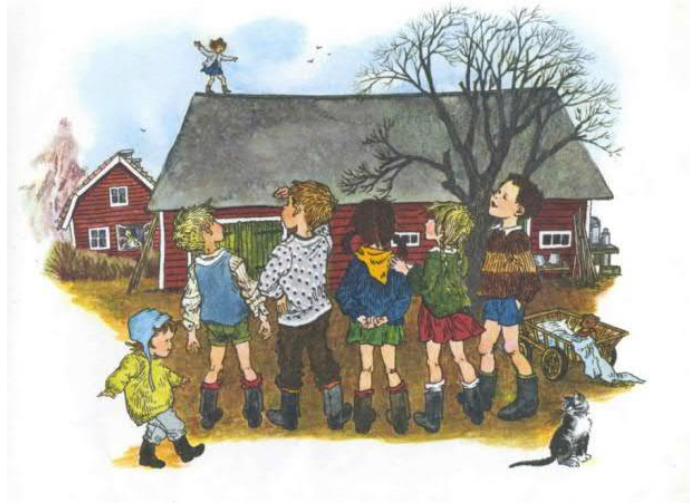
Any environment where children are allowed to be a part of every day life





Affordances of
every day life

Negative
affordances:
risks and
dangers



WHY BULLERBY?

according to Astrid Lindgren,
Swedish writer



Social
affordances

Duties as
affordances



WASTELAND	BULLERBY
CELL	CLASSHOUSE

CLASSHOUSE

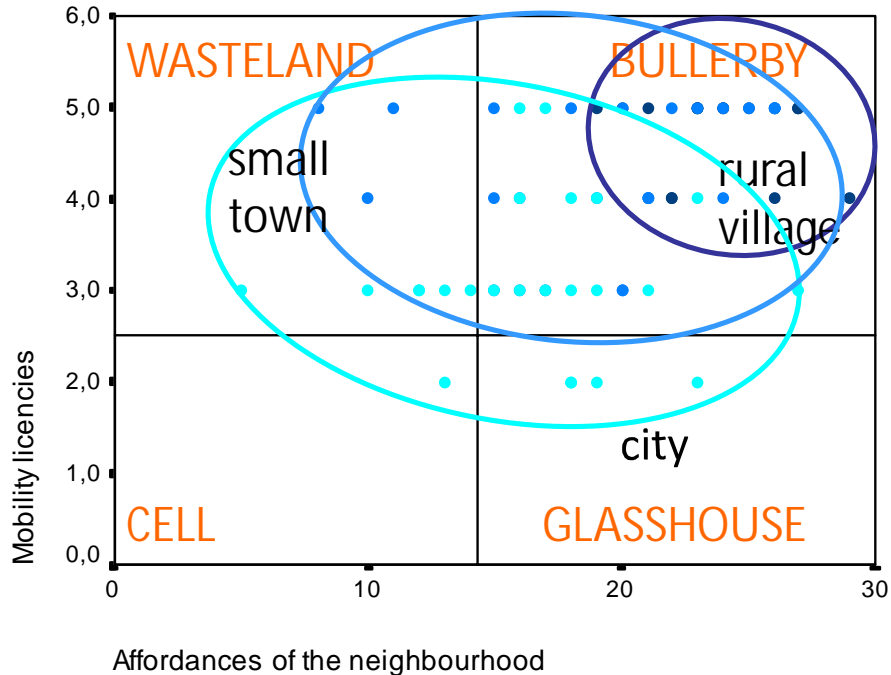
In spite of mobility restrictions, the environment appears as a rich source of affordances. The awareness of affordances can be based on second hand information.



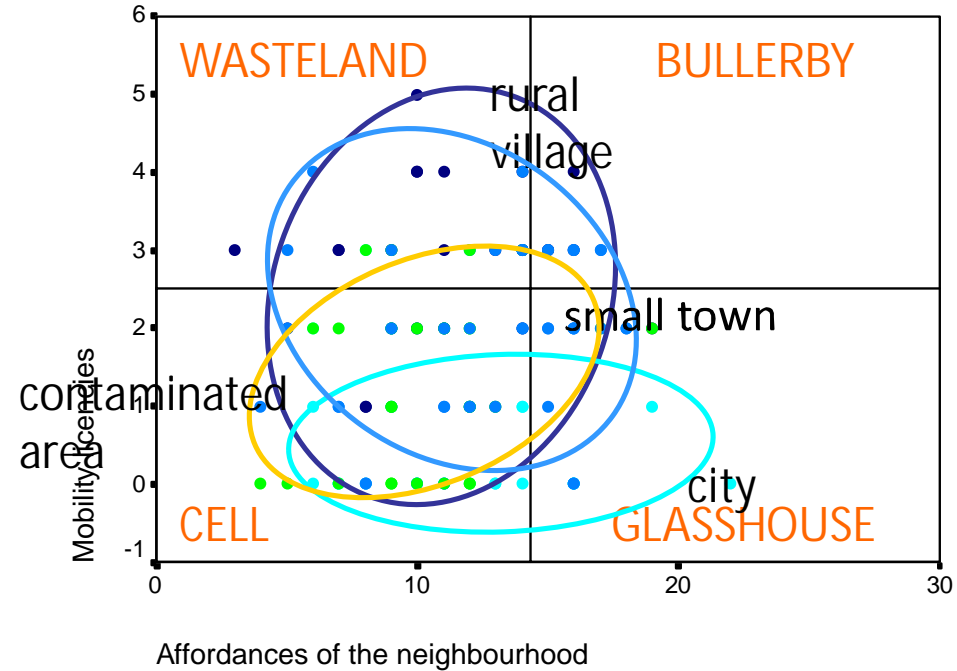
Results

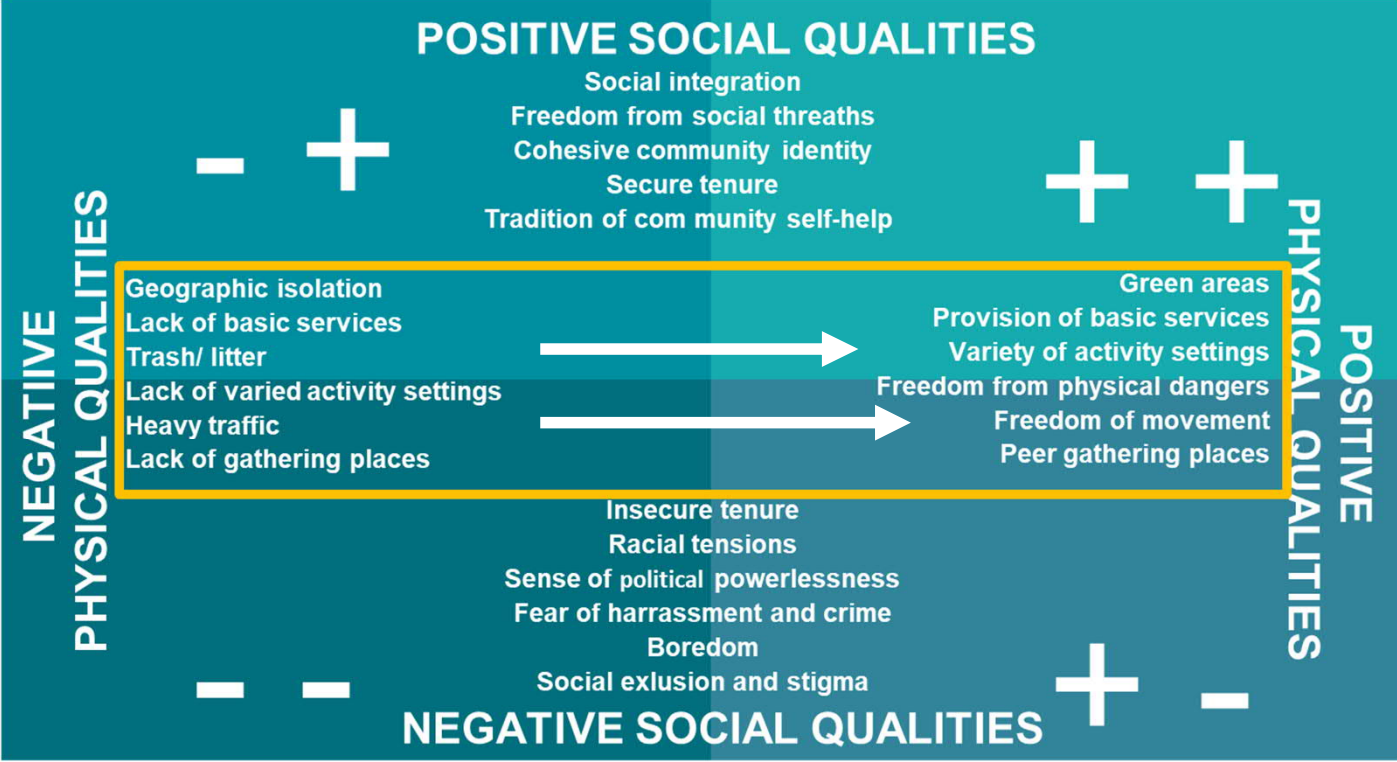
The covariance of independent mobility (mobility licences) and the actualized affordances in different contexts

in Finland

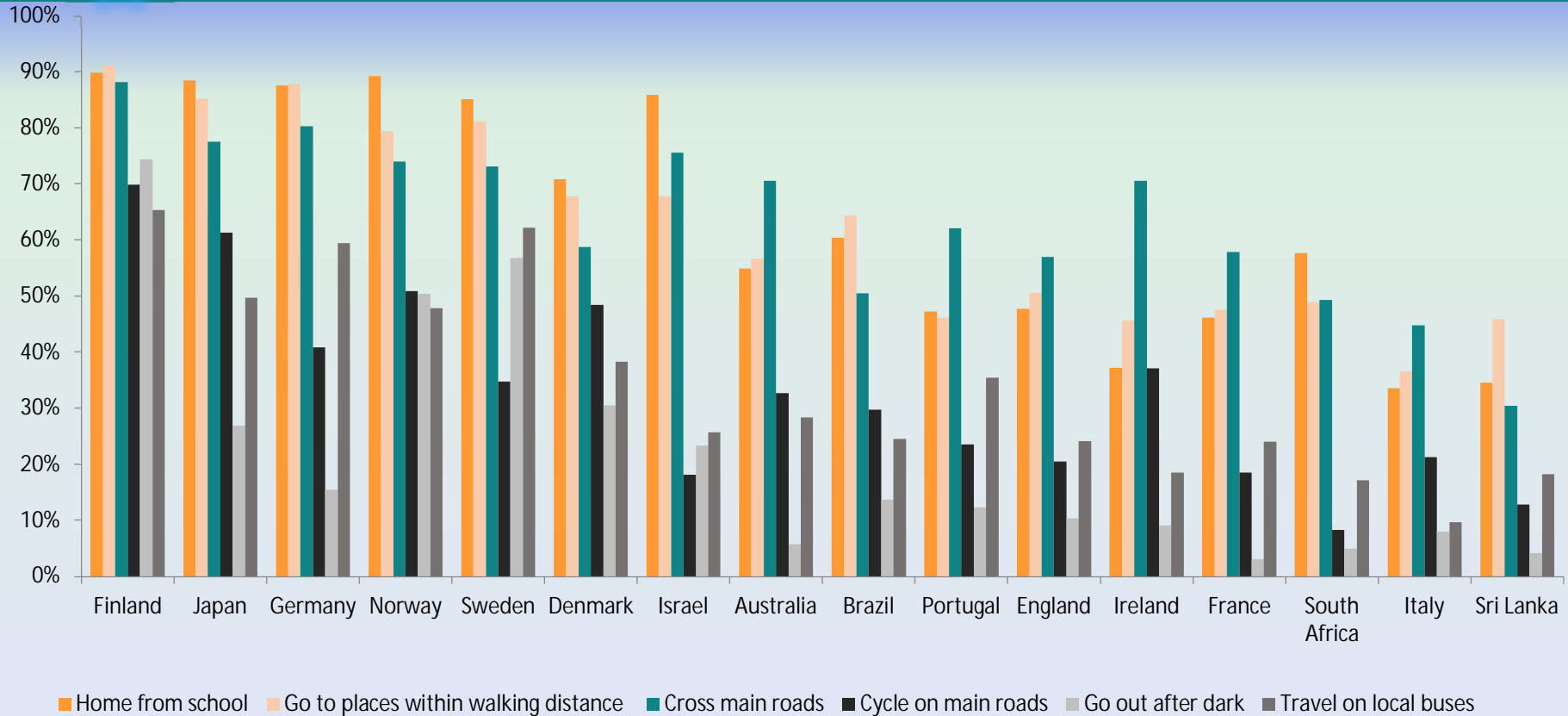


in Belarus

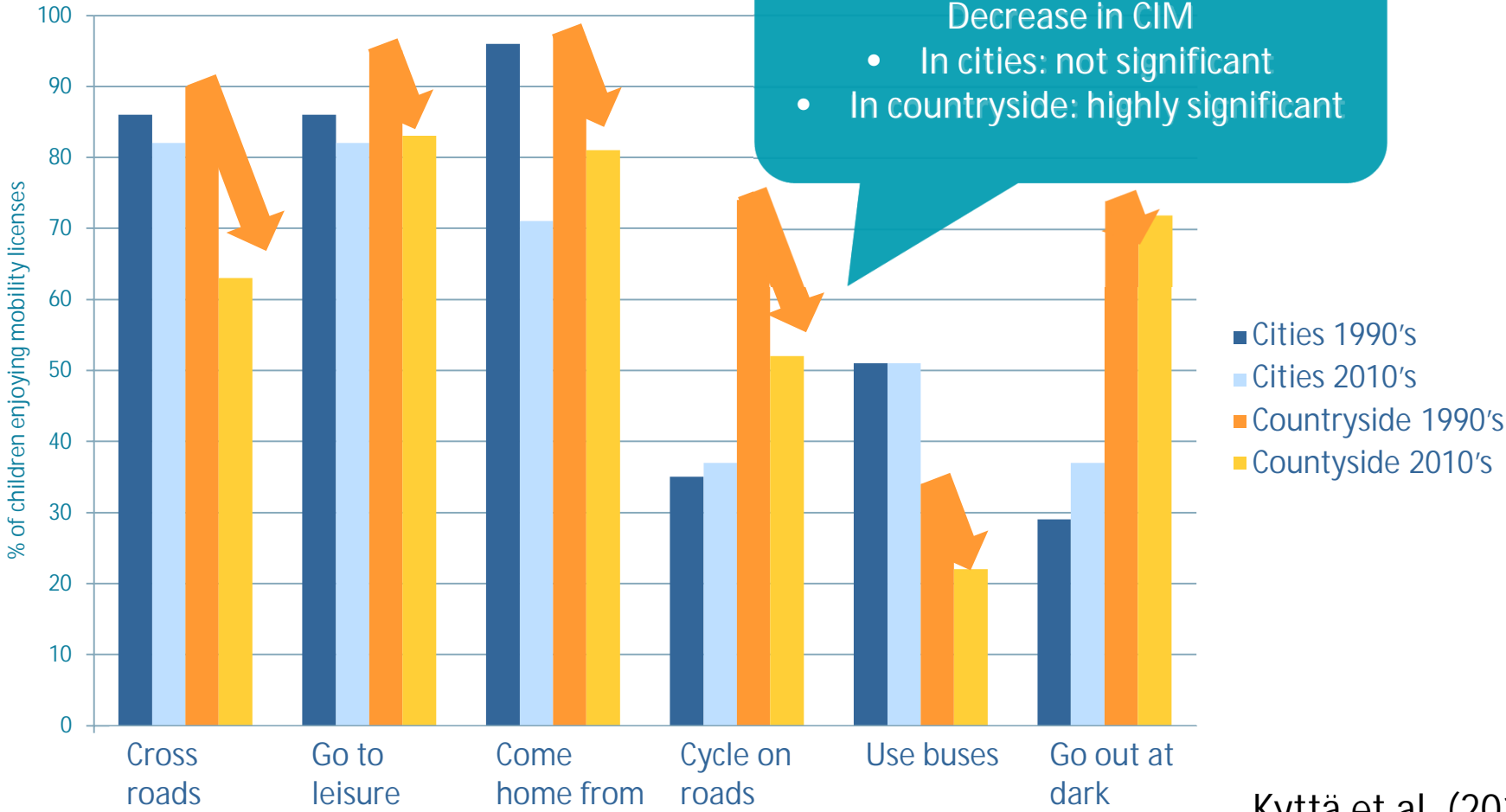




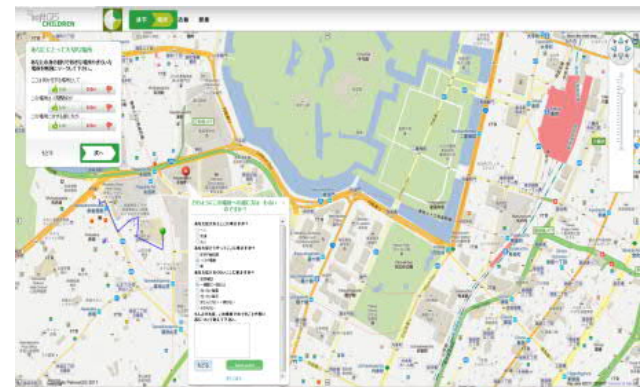
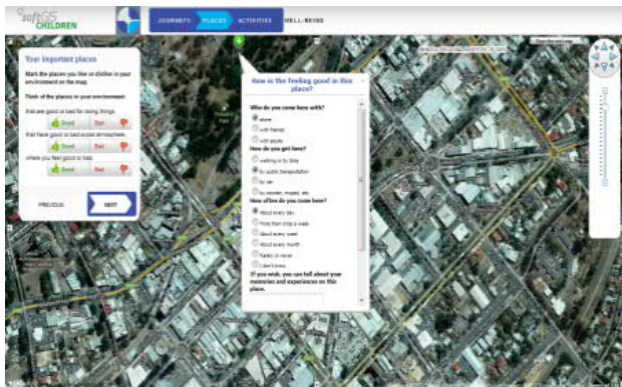
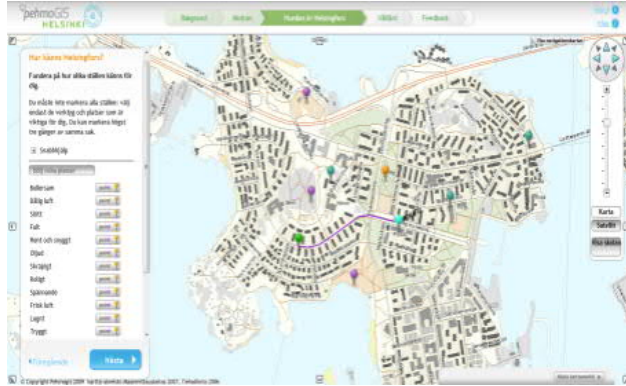
Finland the top country in children's independent mobility!



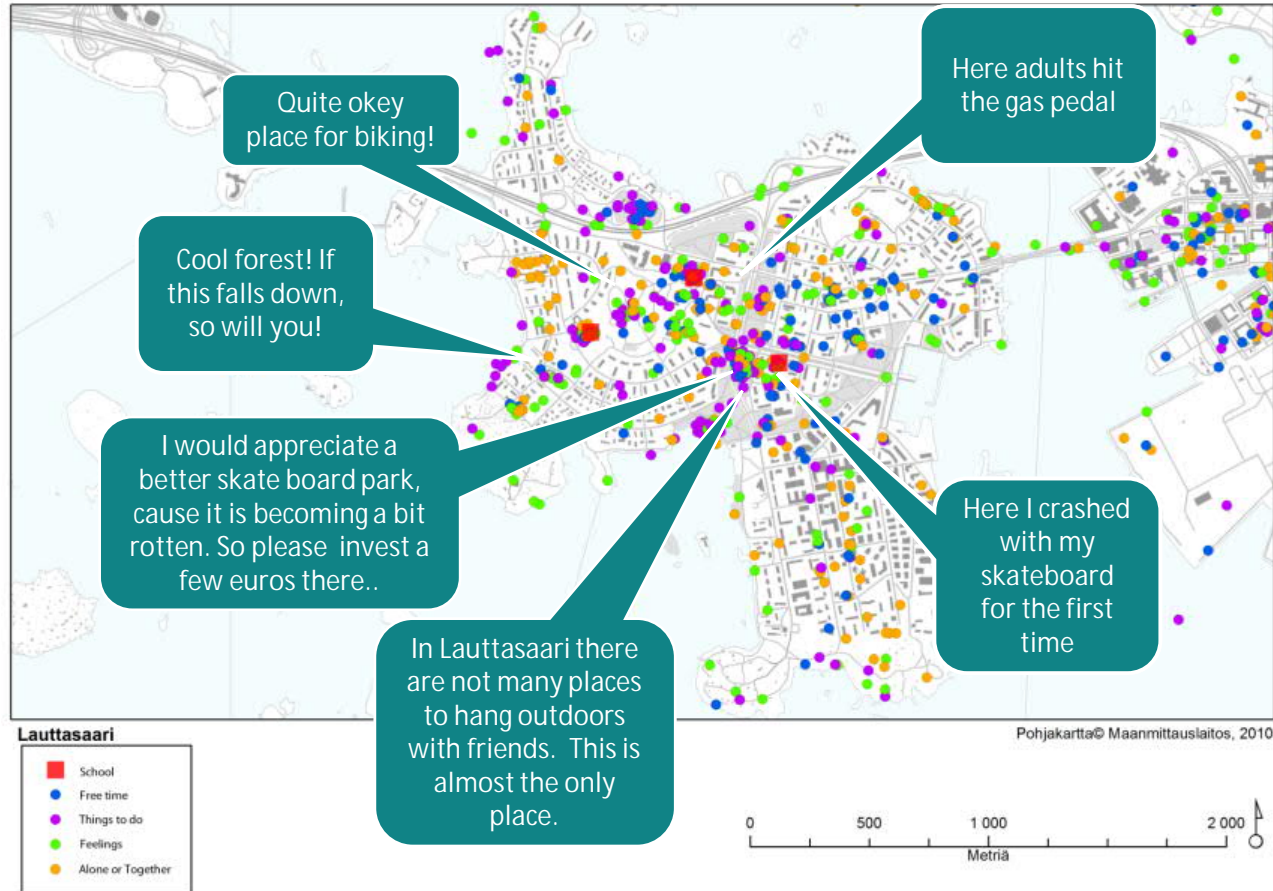
The decrease of children's independent mobility in 20 years in Finland



Place-based approach in child-environment studies



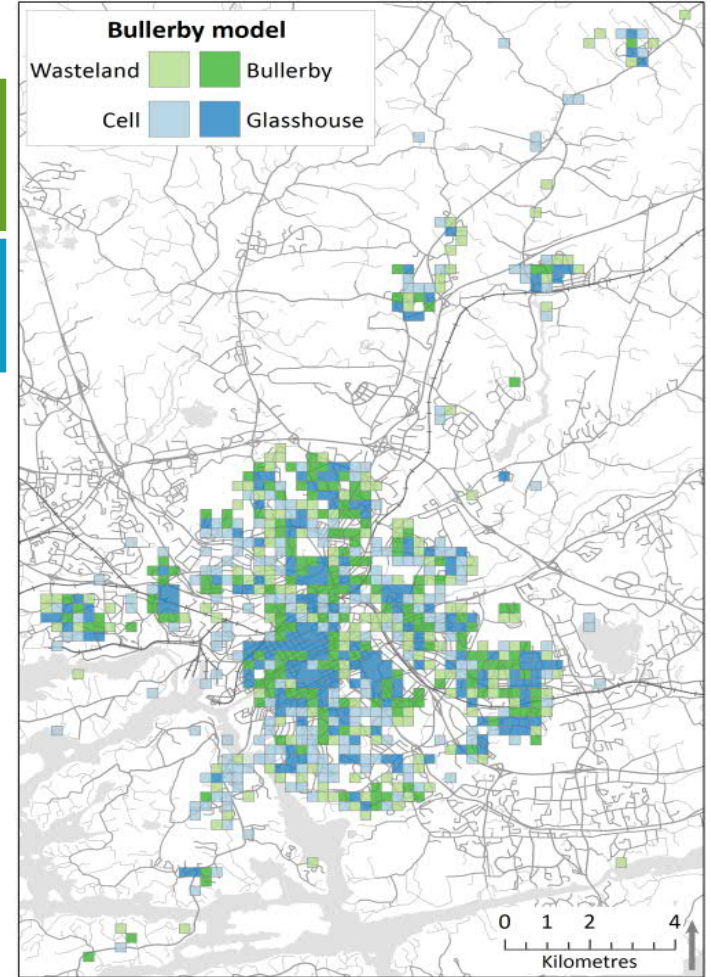
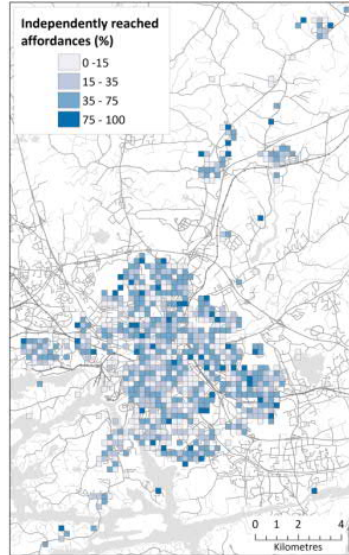
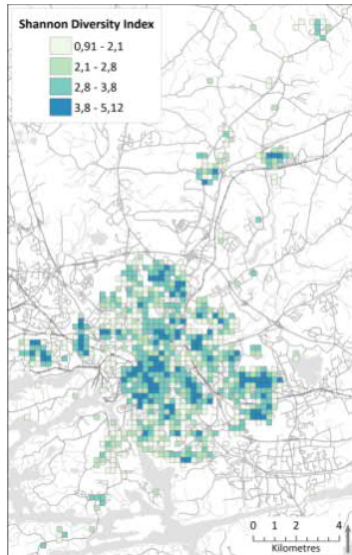
Context specific knowledge from children



Environmental childfriendliness a la Bullerby model

126 inh./ha	240 inh./ha
108 inh./ha	244 inh./ha

population
density



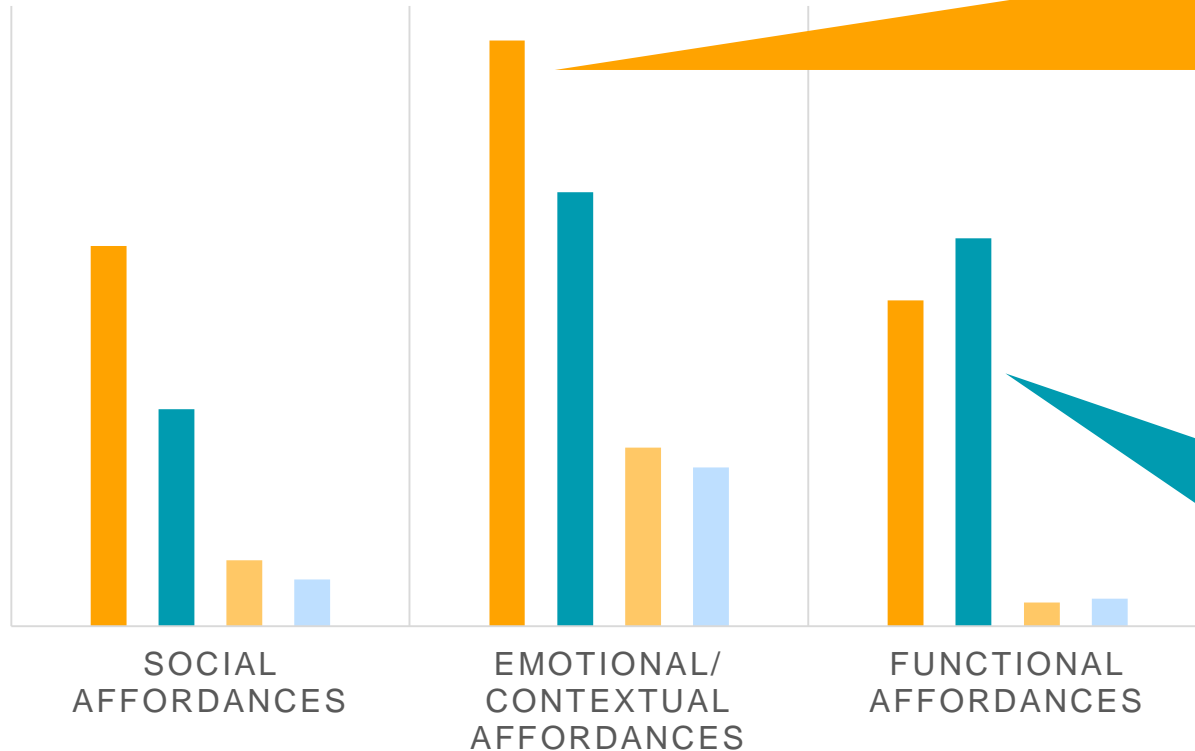


Contextual differences



Contextual differences

3836 meaningful places with 13,264 affordances
from Helsinki, Finland and Tokyo, Japan (Kytta et al, 2018)



Finland

More positive affordances
More social affordances
More emotional/contextual affordances

Japan

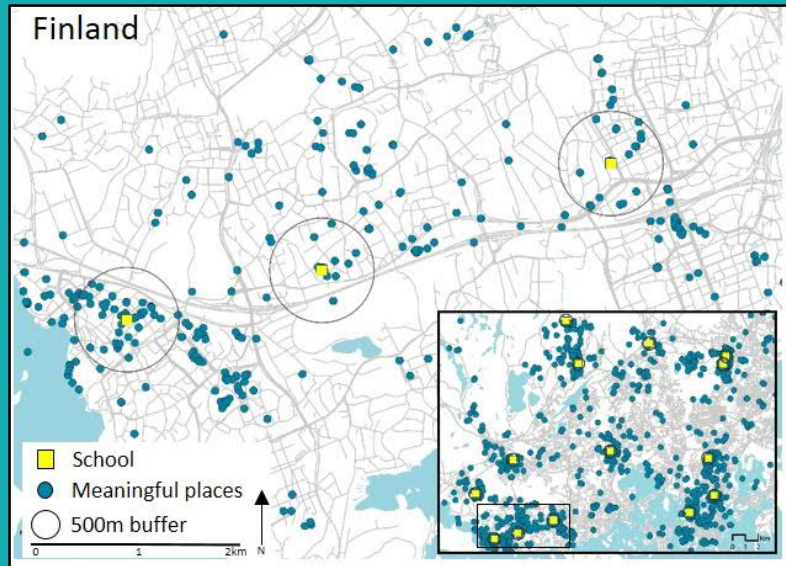
More functional affordances
• Especially for recreational and competitive sports and games

■ Positive Finland ■ Positive Japan ■ Negative Finland ■ Negative Japan

The location of meaningful outdoor places

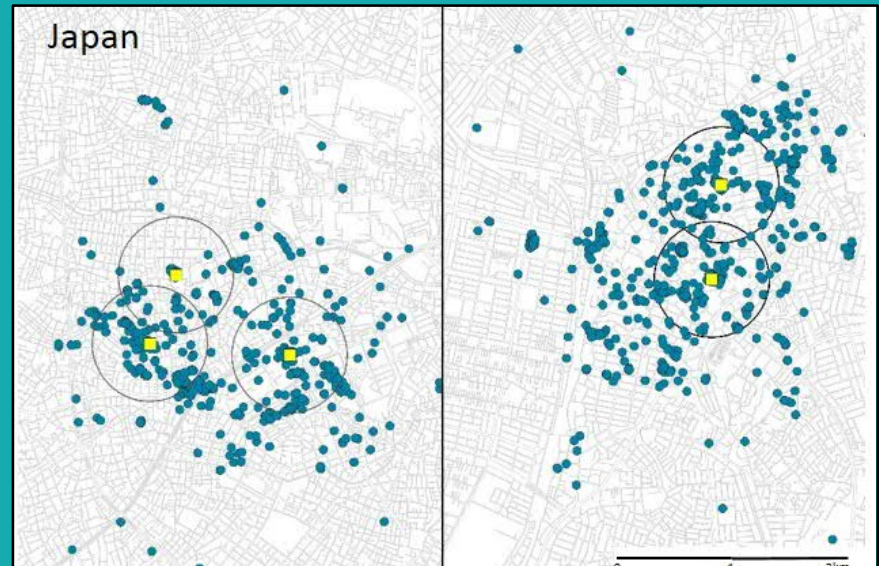
Finland

- Average distance from home: 2,4 km
- 67% journeys made actively
- 7% with adults



Japan

- Average distance from home: 1,1 km
- 91% journeys made actively
- 13% with adults
- Concentrated more around schools



Behavior settings – clusters of affordances



Behavior setting refers to a set of social codes of behavior in a given context (Barker 1968).

Here: Clusters of affordances that are identified by a group of children.

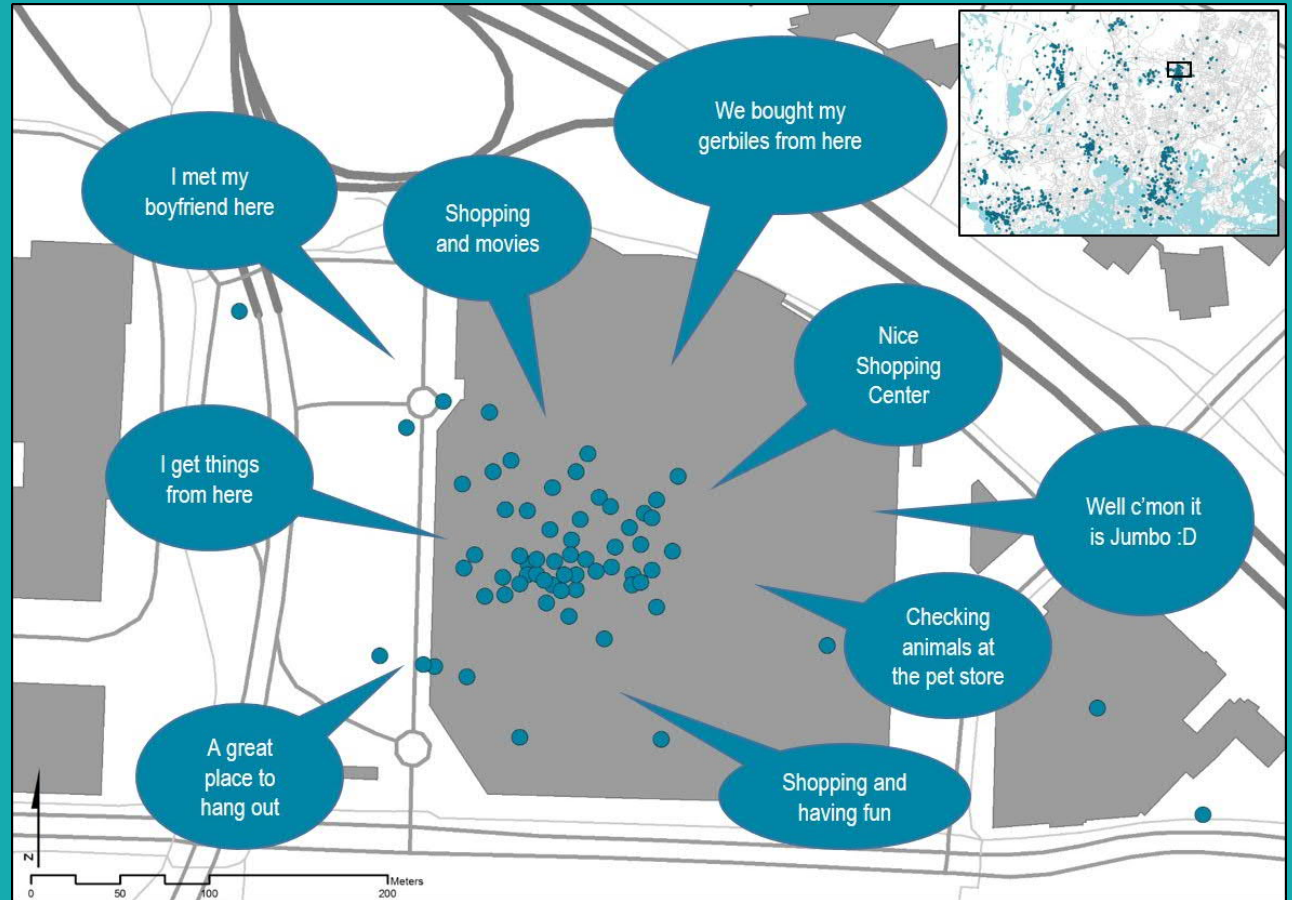


Behavior settings

189

behavior settings in
Helsinki and Tokyo

Here: a shopping
centre in Helsinki



Behavior settings in Helsinki and Tokyo

In both countries:
Outdoor settings shared with
other user groups dominate

In both countries:
Indoor and commercial
settings perceived most
positively, traffic areas most
negatively

		The type of behavior setting			The share of positive affordances within the behavior setting		
		Finland n (%)	Japan n (%)	Difference between the countries	Finland n (%)	Japan n (%)	Difference between the countries
Openness	Indoor	30.9%	34.2%	n.s.	94.4%	91.3%	n.s.
	Outdoor	57.3%	58.2%		89.3%	75.0%	$X^2 = 23.4, df = 1, p = .000$
	Both	11.8%	7.6%		60.8%	78.9%	$X^2 = 16.5, df = 1, p = .000$
Communality	Shared	78.2%	83.5%	n.s.	92.0%	81.9%	$X^2 = 24.6, df = 1, p = .000$
	Child specific	21.8%	16.5%		65.9%	79.9%	$X^2 = 12.4, df = 1, p = .000$
Land use	Educational	22.9%	16.5%	$X^2 = 24.6, df = 5, p = .000$	65.1%	80.8%	$X^2 = 16.2, df = 1, p = .000$
	Commercial	21.9%	26.6%		96.0%	94.2%	n.s.
	Recreational	27.6%	30.4%		95.1%	92.0%	$X^2 = 9.1, df = 1, p = .003$
	Natural	22.9%	3.8%		95.1%	92.0%	$X^2 = 9.1, df = 1, p = .003$
	Traffic	3.8%	15.2%		95.1%	92.0%	$X^2 = 9.1, df = 1, p = .003$
	Religious	1.0%	7.6%		95.1%	92.0%	$X^2 = 9.1, df = 1, p = .003$

Japan: Commercial, recreational, traffic
and religious settings more common
Finland: Natural and educational settings
more common

A model for human-friendly environment?

Accessibility of
environmental
resources



Diversity/amount of
environmental opportunities

Thank you!

Selected publications:

- Broberg, A. Salminen, S. & Kyttä, M. (2013) Physical environmental characteristics promoting independent and active transport to children's meaningful places. *Applied Geography*, Vol. 38, 43-52.
- Broberg, A. Kyttä, M. & Fagerholm, N. (2013) Child-friendly Urban Structures: Bullerby Revisited. *Journal of Environmental Psychology*. Vol. 35, 110–120.
- Fyhri, A. Hjorthol, R. Mackett, R. Nordgaard Fotel, T. & Kyttä, M. (2011) Children's active travel and independent mobility in four countries: Development, social contributing trends and measures. *Transport Policy*, Vol. 18, Issue 5, 703-710.
- Kyttä, M. (2008) Children in outdoor contexts. Affordances and independent mobility in the assessment of environmental child friendliness. PhD thesis, Helsinki University of Technology. Available at: <http://lib.tkk.fi/Diss/2003/isbn9512268736/isbn9512268736.pdf>
- Kyttä, M. (2004) The Extent of Children's Independent Mobility and the Number of Actualized Affordances as Criteria of a Child-Friendly Environment. *Journal of Environmental Psychology*, Vol. 24, Issue, 179-198.
- Kyttä, M. (2002) The Affordances of Children's Environments. *Journal of Environmental Psychology*, Vol. 22, Issue 1, 109 - 123.
- Kyttä, M. Hirvonen, J. Pirjola, I. Laatikainen, T. & Rudner, J. (2015) The last free-range children? Children's independent mobility in Finland in 1990's and 2010's. *Journal of Transport Geography*, 47, 1-12.
- Kyttä, M. Kaaja, M. & Horelli, L. (2004) An Internet-based Design Game as a Mediator of Children's Environmental visions. *Environment & Behavior*, Vol. 36, Issue 1, 127 – 151.
- Kyttä, M. Oliver, M. Ikeda, E. Ahmadi, E. Omiya, I. & Laatikainen, T. (2018) Children as urbanites: Mapping the affordances and behavior settings of urban environments for Finnish and Japanese children. *Children's Geographies*, Vol 16, No 3, 319–332.
- Laatikainen, T. Broberg, A. & Kyttä, M. (2017) The physical environment of positive places: Exploring differences between age groups. *Preventive Medicine*, Vol 95, S85–S91.
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- Shaw, B. Bicket, M. Elliott, B. Fagan-Watson, B. Mocca, E. & Hillman, M. (2015) Children's independent mobility. An International Comparison and Recommendations for Action. Policy Studies Institute, London.