

\*Please get in contact for more information and the reference list\*

## Cognitive Functioning and Decline in Relation to Urban Environmental Characteristics

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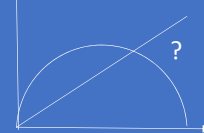
H2020 MINDMAP Workshop 'Promoting mental well-being and healthy ageing in cities', 20 November 2018, Rotterdam

## Cognitive Reserve as Guiding Framework to Explore the Role of Urban Characteristics<sup>1</sup>

### URBAN CHARACTERISTICS

- Walkability
- Complexity
- Cognitive-friendly environments
- Recreational activities
- Green and blue spaces/Nature availability

### COGNITIVE STIMULATION IN CITIES AND COGNITIVE HEALTH



Absence of environmental toxins  
Opportunities for play and exploration

Quality of schooling  
Cultural, social activities, sports

- Occupational complexity
- Commute between work, home, leisure

Aging in place  
Social integration versus isolation

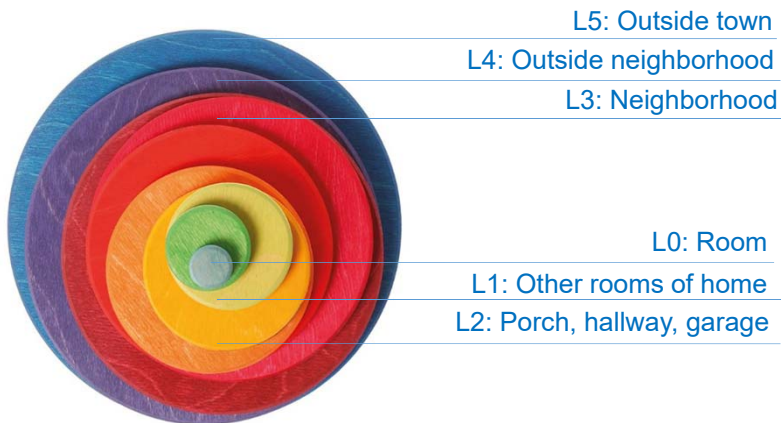
Early Childhood

Education

Working Life

Later Life

## How much 'city' are older adults actually being exposed to? → Concept of **Life-space**<sup>2</sup>



### COMMON MEASURES OF URBAN CHARACTERISTICS

- Affluence, deprivation
- Land-use mix
- Community centres
- Micro-scale

.... Do these measures capture the urban characteristics *within reach* of older adults?

## Life-Course Exposures Make Causal Inference Tricky<sup>3</sup>

### Historic and Cohort-specific (Life-course) Exposures

- Lead in petrol
- Cumulative effects of living in high- and low-SES neighborhoods
- Probability of being exposed to heavy-traffic roads
- Self-selection into neighborhoods

### Air pollution

- Proximity to heavy-traffic road
- Measures of pollutants
- (Noise pollution)



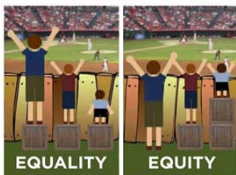
Incidence of dementia after 5-10 years

## Relevant Concepts<sup>4</sup>

- Complexity to conceptualize cognitive-friendly environments
- Compact cities
- Child-friendly cities
- Age-friendly cities, dementia-friendly cities
- Mobility (disablement process)
- Environmental restorative properties (green space)
- Epigenetics, ecodiversity, aerobiology?

## Equity Perspective Beyond Cumulative (Dis)Advantage<sup>5</sup>

Individual resources play out in interaction with area/neighborhood affluence or deprivation



Note: This image was adapted by the City of Portland Office of Equity and Human Rights from the original graphic: <http://indianfamilynews.com/wp-content/uploads/2013/05/Equity-Concept-Meaning-Facebook-Post.jpg>

