Impact of environmental characteristics on sedentary behaviour in low-SES neighbourhoods

Leuven Eusuhm 08/09/17 – Yonca Malkaya

Kind & Gezin
Content

- Background
- Method
- Research questions
- Results
- Discussion
- Conclusion
- Questions
Background

- **Sedentary behaviour (SB)**
  
  Total sedentary behaviour

  Domain specific sedentary behaviour

  At work, transport, television viewing, computer use at home, leisure time

- **Neighbourhood**

  Five physical and social neighbourhood characteristic:

  1. Aesthetics
  2. Safety
  3. Route- and destination related
  4. Social cohesion
  5. Social network
Method

• **SPOTLIGHT-project** (Sustainable prevention of obesity through integrated strategies)
  - Five European countries: Belgium, France, Hungary, the Netherlands and the UK
  - Objective: Evidence-based model for prevention of obesitas
  - Work package 3: Obesogenicity of environment

• **Design**
  - Cross-sectional observational study

• **Target group**
  - Adults 18-65 year

• **Measuring instruments**
  - Questionnaires
Research questions

• **Research question 1**
  Prevalence of (domain specific) SB in neighbourhoods with low-SES?

• **Research question 2**
  Which physical and social neighbourhood characteristics determine (domain specific) SB across the countries?

• **Research question 3**
  Which physical and social neighbourhood characteristic determine (domain specific) SB within each country?
Results

Research question 1: Prevalence

Total sedentary behaviour:

- Average weekday: 616,048 minutes (± 243,951)
- Average weekend day: 528,965 minutes (±249,355)

Domain specific sedentary behaviour:

- Average weekday: highest SB at work with 304,862 minutes (±203,403)
- Average weekend day: highest SB while television viewing with 167,764 minutes (±132,380)

Significant difference in average minutes SB between week and weekend
Results

Research question 2: Physical and social environmental characteristics

Total sedentary behaviour:
Not significant week and weekend

Domain specific behaviour:
Week: significant at work
  social cohesion (+) and social network (-)

Week and weekend: significant while television viewing and computer use at home
  aesthetics (+) and social cohesion (-)
# Results

Research question 3: Physical and social neighbourhood characteristics in each country

**ANOVA models significant:**
- Belgium 6/12
- France 5/12
- Hungary 6/12
- Netherlands 1/12
- UK 2/12

**Physical and social environmental characteristics:**

- **Aesthetics**
  - 9x pos: 8x screen related SB Belgium and Hungary; 1x transport related SB Netherlands
  - 2x neg: work related and total SB France

- **Social cohesion**
  - 8x neg: 7x screen related SB Belgium and Hungary; 1x leisure time SB UK
  - 2x pos: work related and total SB France
Discussion 1

Possible explanations for the high prevalence (domain specific) SB:

**Total sedentary behaviour**

- High prevalence adults with low SES (Mielke et al., 2014)
- High prevalence total SB in Europa (Loyen et al., 2016)
- No sign difference neighbourhood-SES (Van Dyck et al., 2010)

  *No consistence to SES-variation in SB so far in literature.*

  *More research needed impact neighbourhood-SES on SB*

**Domain specific sedentary behaviour**

- Week: High prevalence work related SB (Busschaert et al., 2016; Smith et al., 2016)
- Weekend: High prevalence screen related SB (Rhodes et al., 2012; Sugiyama et al., 2008)

  *In line with existing literature*
Discussion 2

Possible explanations for the impact of physical and social environmental characteristics on (domain specific) SB:

**Total sedentary behaviour**

Environmental perceptions

Domain specific SB lift each other (e.g. social cohesion)

**Domain specific sedentary behaviour**

Aesthetics (+): contradictory results in literature (Koohsari et al., 2015)

more research needed

Social cohesion (-): not in line with literature (Koohsari et al., 2015; Smith et al., 2016)
Discussion 3

Possible explanations for the impact of physical and social environmental characteristics in each country on (domain specific) SB:

- Difference between countries
- Bigger role in Belgium, France and Hungary
- Country specific factors
- No clear design
- Low explained variances

  Difficult to conclude clearly

  More research needed
Discussion

Strengths:

Context
Five European countries
Power
Ecological model

Limitations:

Cross-sectional observational study
Only neighbourhood level
Subjective measuring method
Conclusion

Prevalence:

- High total and domain specific SB in Europe in neighbourhoods with low SES
- Week: at work
- Weekend: while television viewing

Impact of physical and social environmental characteristics on total and domain specific SB:

- Limited explained
- Aesthetic and social cohesion

Physical and social environmental characteristics differ between the five countries:

- Country specific
- Generalizability ?!
Relevance for practice and recommendations

Social cohesion important in future interventions
More research needed to declare impact of aesthetic
Home and work related research
Longitudinal research
Specific target groups
Thanks for your attention!

ANY

QUESTIONS?