

Determinants and barriers of walking, cycling and using Personal e-Transporters

The ISAAC survey in nine European cities

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Personal e-Transporters



About the survey

- ▶ **E-survey about motivations and barriers behind walking, cycling, and using Personal e-Transporters**
- ▶ **Nine cities in four countries**
 - ▶ BE: Liège, Ghent
 - ▶ NL: Tilburg, Groningen
 - ▶ DE: Düsseldorf, Dortmund, Berlin
 - ▶ NO: Bergen, Trondheim
- ▶ **Representative sample of 250 respondents per city**

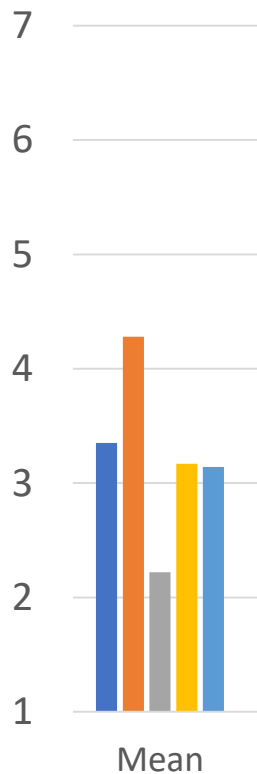
Most important obstacles hindering cycling more frequently?

To what extent are the following aspects an obstacle for you to cycle more frequently?



Most important obstacles hindering walking more frequently?

To what extent are the following aspects an obstacle for you to walk more frequently?



■ Physical effort ■ Time ■ Costs ■ Environment ■ Traffic safety

Groups of persons with common determinants of variation in behaviour?

- ▶ **(Only) two clusters of respondents identified:**
 - ▶ Pro-cycling cluster (56%)
 - ▶ Non-pro-cycling cluster (44%)
- ▶ **More variation in psychological determinants of cycling**
 - ▶ More 'pronounced' opinion about cycling than about walking






Characteristics of pro-cycling cluster

- ▶ **More Dutch participants; few from Bergen and Liège**
- ▶ **More young people**
- ▶ **More men**
- ▶ **Higher education level**
- ▶ **NOT more pro-environmental**

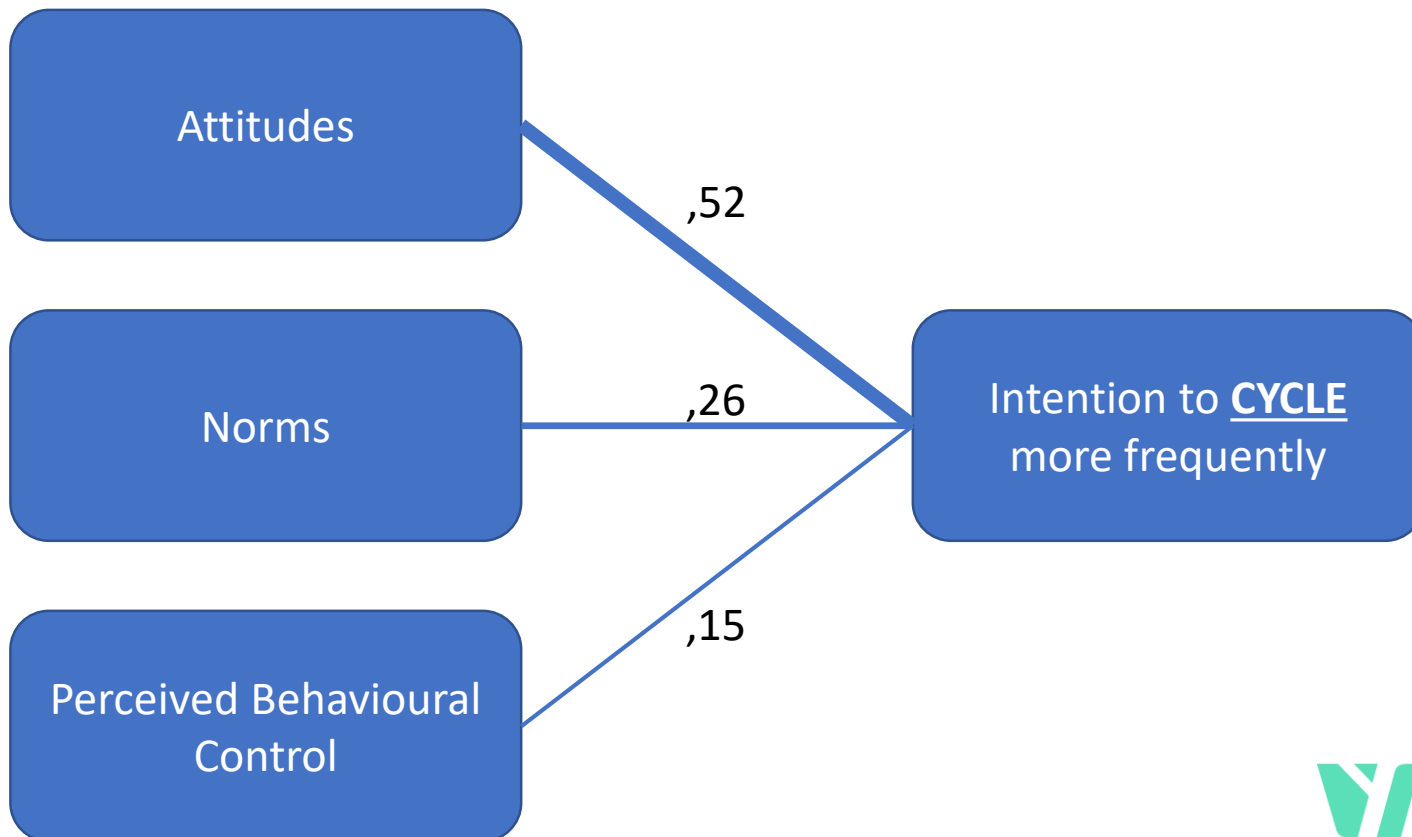
Characteristics of pro-cycling cluster

- ▶ **More subscriptions to**
 - ▶ Public transport
 - ▶ Car sharing
 - ▶ Bicycle sharing
 - ▶ ... but no difference in driving license possession between both clusters (slightly lower car ownership)
- ▶ **Make more use of ALL 'alternative modes'**
 - ▶ Cycling (obviously)
 - ▶ Walking
 - ▶ Moped/motorcycle
 - ▶ Public transport
 - ▶ Taxi
 - ▶ Personal e-Transporters
- ▶ **More often 'occasional' car drivers/passengers**

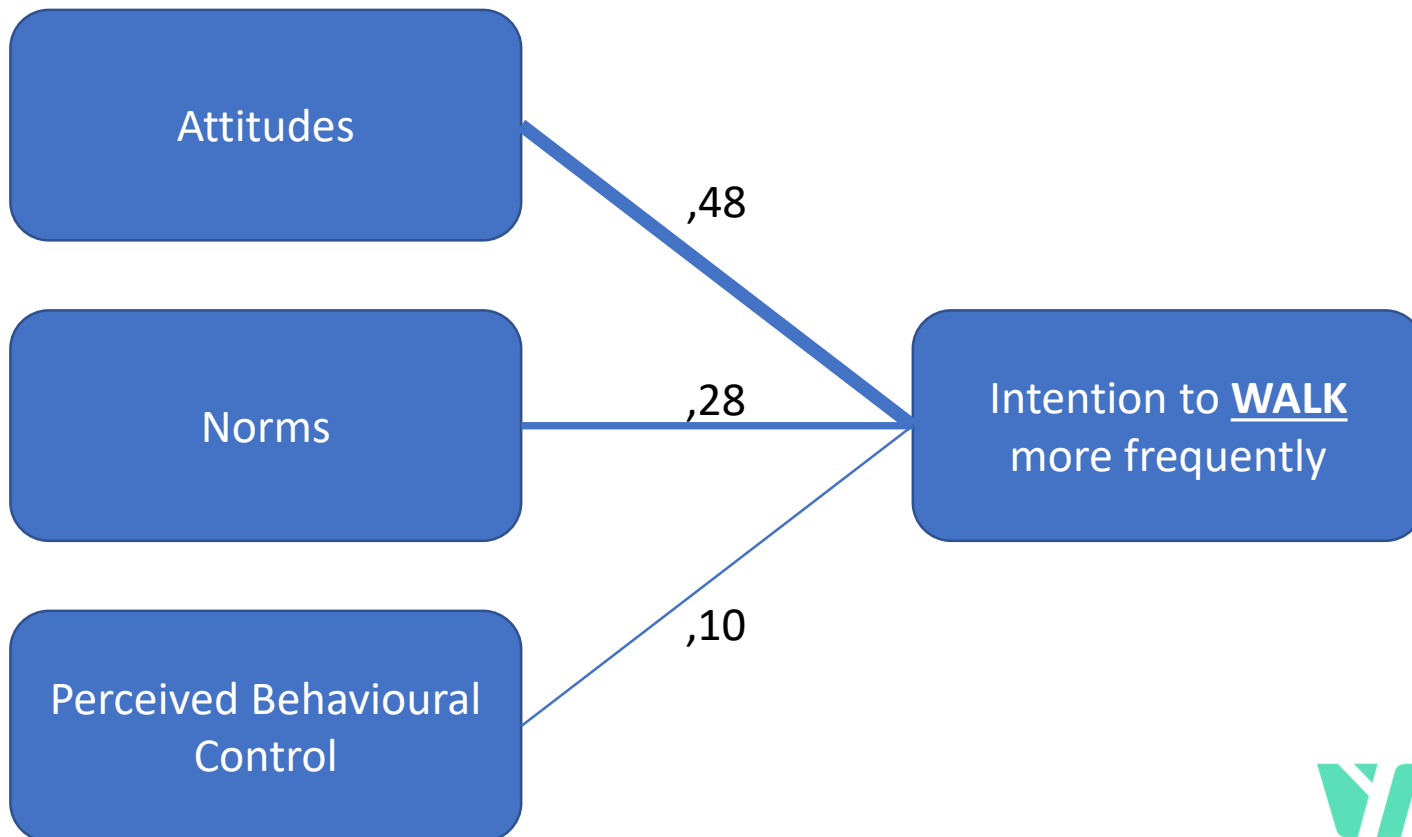
Characteristics of pro-cycling cluster

Obstacle to cycle more	Pro-cycling cluster	Non-pro-cycling cluster
Physical effort		
Time		
Costs		
Environment (climate, hilliness)		
Traffic safety		

Determinants of intention to cycle more frequently



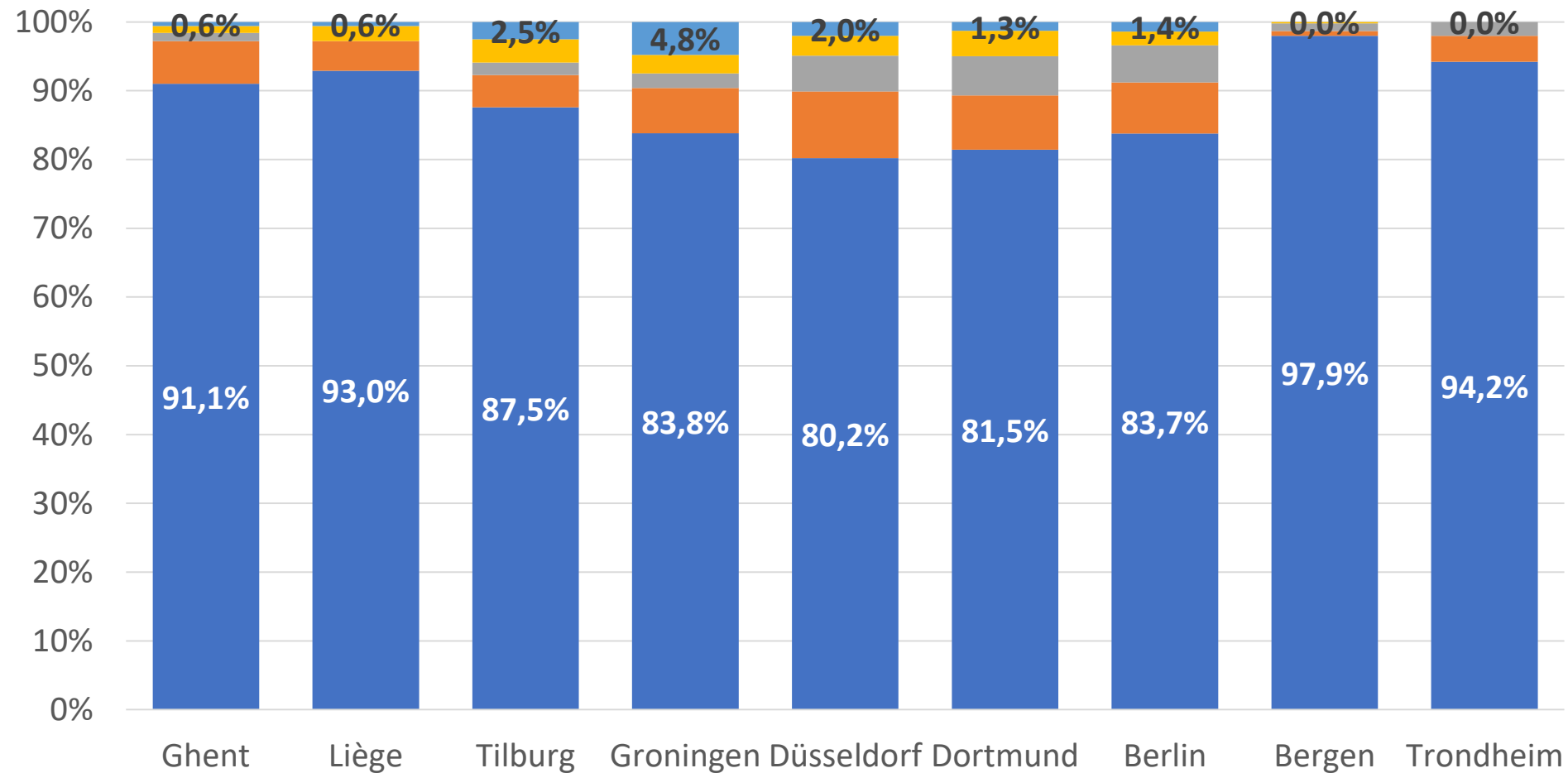
Determinants of intention to walk more frequently



Personal e-Transporters

- At least 5 days per week
- One to a few days per week
- One to a few days per month
- One to a few days a year
- Never

Usage frequency PeTs



Perceptions of PeTs







For me, to take a Personal e-Transporter for my daily travel would be





Stage model PeTs

- ▶ **What stage of behavioural change?**
 - ▶ Change = using PeTs more frequently
- ▶ **Stages:**
 - ▶ Pre-contemplation
 - ▶ Contemplation
 - ▶ Preparation
 - ▶ Action
 - ▶ Maintenance
- ▶ **Identify characteristics that affect what stage a person is in**

Stage model PeTs

- ▶ Higher cycling norms 
- ▶ Higher perceived obstacles hindering cycling 
- ▶ Walking more frequently 
- ▶ ... but higher walking attitudes 
- ▶ Stronger transport mode habits 
- ▶ Subscription to bike sharing system 

Conclusions

- ▶  \neq 
- ▶ Main obstacle cycling: road safety
- ▶ Main obstacle walking: time
- ▶ **Cycling/walking attitudes are important for behavioural change**
- ▶ **PeTs are important opportunity for first/last mile solutions and urban trips, but at the moment unfavourable opinions**
 - ▶ Mainly safety and cost



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