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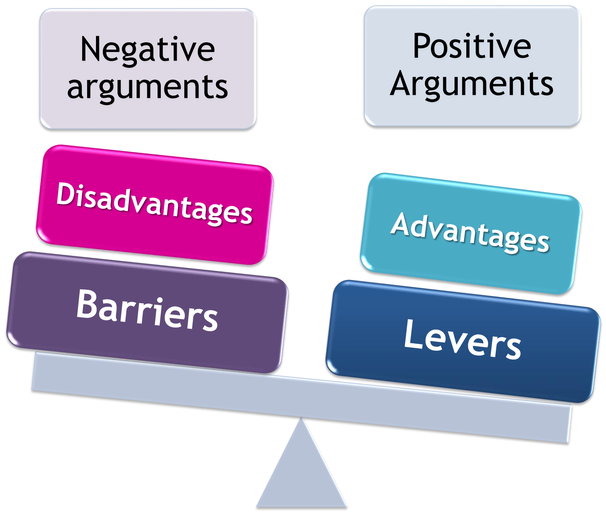
Cyclists' and Non-cyclists' Representations and Motivations of Utilitarian Urban Cycling in France

Introduction

Representations and motivations are powerful determinants of mobility behavior, and thus of the decision to cycle.

What are the representations and motivations of cycling according to the type of user?



Representation: the mental image of an object or action

Motivation: the drive or the strength to do or not an action

Aims

- Determining the weight of the arguments related to utilitarian urban cycling according to the frequency of cycling
- Studying whether important arguments (advantages and disadvantages) are indeed the ones that motivated people to cycle (levers and barriers)
- Identifying groups of positive and negative arguments

Method

Online questionnaire:

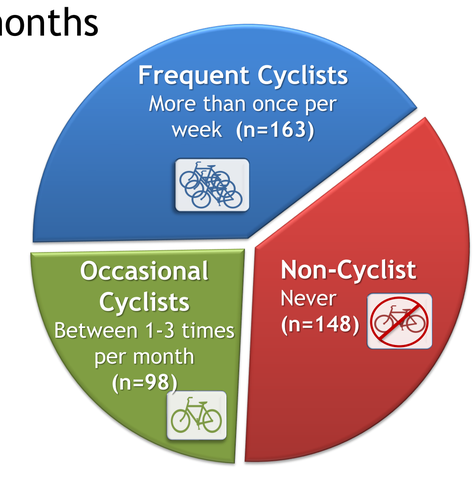
- Representational and motivational scales (5-point Likert scale):
  - **14 positive arguments:** advantage – lever
    For you, to what extent is (…) an important advantage/lever of cycling as an urban mode of transport ? (1- not at all important advantage to 5- very important advantage)
  - **21 negative arguments:** disadvantage – barrier
    For you, to what extent is (…) an important disadvantage /barrier of cycling as an urban mode of transport ? (1- not at all important disadvantage to 5- very important disadvantage)
- Use of bike and other modes of transport
- Future cycling intentions
- Socio-demographic data

Sample:

409 cyclists and non-cyclists (♂49%, ♀51%, aged 18-65) in the eleven largest French cities

Groups

Urban bike use during the last 6 months



Results

	Advantages			Levers		
Physical activity	4.06	3.83	3.66	3.73	3.50	2.84
Ease to park	4.02	3.89	3.65	3.67	3.41	3.00
To leave a place when you want	3.88	3.56	3.39	3.65	3.29	2.92
Good weather	3.75	3.62	3.51	3.50	3.39	3.03
Time saved	3.82	3.48	3.28	3.66	2.29	2.85
To go wherever you want	3.85	3.56	3.39	3.64	3.30	3.00

		Disadvantages			Barriers		
Bad weather	Ice	4.27	4.46	4.70	4.15	4.24	4.62
	Heavy rain	4.19	4.36	4.53	4.00	4.10	4.43
	Snow	4.05	4.37	4.59	3.78	4.18	4.49
Lack of attention from other road users		3.39	3.49	3.97	3.03	3.10	3.89
Long distances		3.15	3.59	3.82	2.96	3.39	3.70
Vulnerability in traffic		3.31	3.53	4.18	3.02	3.27	3.99

➔ The more a person uses a bike as a mode of transportation, the more he or she will give importance to advantages and levers and the less to disadvantages and barriers.

PCA - Advantages

Principal Component Analyses on 14 advantages➔3 factors:

1- Independence (38%)
2- Enjoyment (10%)
3- Utility aspects of (7%)

KMO = 0.878; BTS <.001

PCA - Disadvantages

PCA on 21 disadvantages ➔ 5 factors:

1- Perceived danger (31%)
2- Weather issues (12%)
3- Effort (8%)
4- Sweating issues (6%)
5- Lack of parking places (5%)

KMO = 0.878; BTS <.001

Representations vs. Motivations

High positive correlation between:

- advantages and levers (r=.58 to .79)
- disadvantages and barriers (r=. 56 to .85)

Representational scores > Motivational scores

For each group, on average, representational scores were significantly higher than motivational scores. Advantages were higher than levers, and disadvantages were higher than barriers.

- **Positive:** $F(1, 400)= 227.15$, $p<.001$, $\eta^2=.362$
- **Negative:** $F(1, 400)= 81.56$, $p<.001$, $\eta^2=.169$

Conclusion

These results allow us to better understand positive and negative motivations towards cycling according to the type of user (frequent cyclist, occasional cyclist or non-cyclist). They will enable stakeholders to design cycling promotion campaigns tailoring different user types.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