

Explaining modal split by a top-down, lifestyle-based segmentation approach: Evidence from a Swiss tracking study

Based on the tracking data from the first of the two tracking months (observation phase) and the surveys conducted within the MOBIS project [1] we investigate the effect of Otte's top-down, lifestyle-based segmentation approach [2] on the share of car, public transport, bike and foot in the total average daily distance travelled. Results of a linear regression analysis show that when controlled for income, education, age and gender belonging to the group of home-centred has a positive

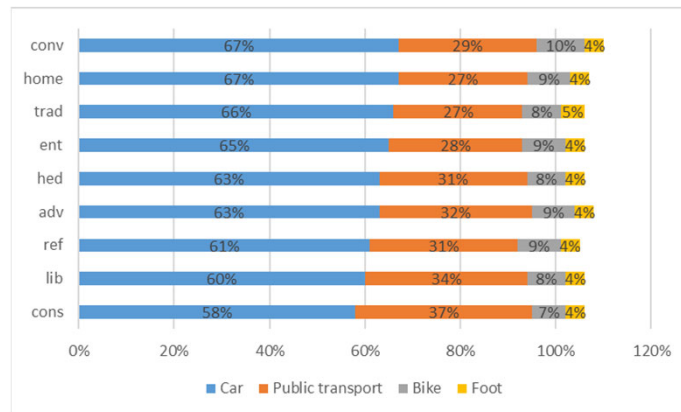
effect on the car share, while it has a negative effect on the share of public transport. Other lifestyles from the Otte typology do not have a significant effect on the share of transportation modes in the total average daily distance travelled. For designing tailored interventions, our results suggest that home-centred are an appropriate target group for campaigns to reduce their car use and promote the use of other, more sustainable means of transport.

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Introduction

Campaigns to promote pro-environmental behaviour including sustainable mobility often fail to achieve their goal due to their «one size fits all» character, which ignores different motivational structures of different societal segments. This gave rise to recent efforts dealing with segmentation concepts that could be applied for identification of target groups and designing tailored campaigns [3][4]. In order to address the limitations of those mainly bottom-up, data-driven approaches (low replicability and comparability, large amount of data being required), we explore the potential of a top-down, lifestyle-based approach, as exemplified by Otte's lifestyle typology, for explaining the share of transportation modes in the average daily distance travelled.

The lifestyle-specific shares of transportation modes



Otte's lifestyles

		Modernity / biographical perspective		
		traditional	semi-modern	modern
Endowment	high	CONS (1.6%)	LIB (16.4%)	REF (13.4%)
	middle	CONV (2.2%)	ADV (28.8%)	HED (20.1%)
	low	TRAD (1.4%)	HOME (9.5%)	ENT (6.7%)

TRAD = traditional workers, CONV = conventionalists, CONS = conservatives, HOME = home-centred, ADV = advancement-oriented, LIB = liberals, ENT = entertainment-oriented, HED = hedonists, REF = reflexives

References

[1] <https://ivtmobis.ethz.ch/mobis/>
[2] Otte, G. (2004). Sozialstrukturanalysen mit Lebensstilen: Eine Studie zur theoretischen und methodischen Neuorientierung der Lebensstilforschung. Wiesbaden: VS Verlag für Sozialwissenschaften.

Preliminary findings

	Car		Public transport	
	β	p	β	p
Traditional workers	.014	.430	-.020	.275
Home-centred	.037	.048	-.046	.021
Entertainment-oriented	.025	.174	-.036	.060
Conventionalists	.025	.154	-.018	.321
Hedonists	.004	.842	-.017	.410
Conservatives	-.020	.263	.027	.137
Liberals	-.023	.238	.007	.730
Reflexives	-.005	.801	-.028	.170
Income	-.054	.002	.060	.001
Education	-.104	.000	.103	.000
Age	.026	.139	-.024	.174
Sex	.016	.364	-.021	.252
adj. R ²	.018		.018	
F	5.962		5.623	
N	3'306		3'058	

Note. β = standardized beta coefficients. Significant coefficients are in boldface.

- Belonging to **home-centred group** has a positive effect on the **car share**.
- Belonging to **home-centred group** has a negative effect on the share of **public transport**.
- Models explaining the share of **bike and foot** are not associated with sufficiently high explanatory power in order to draw conclusions regarding the determinants of those shares.
- Home-centred are an appropriate target group for campaigns to reduce their car use and promote the use of other, more sustainable means of transport.

[3] Seidl, R., Moser, C., & Blumer, Y. (2017). Navigating behavioral energy sufficiency. Results from a survey in Swiss cities on potential behavior change. PLOS ONE, 12(10), e0185963. <https://doi.org/10.1371/journal.pone.0185963>

[4] Sütterlin, B., Brunner, T. A., & Siegrist, M. (2011). Who puts the most energy into energy conservation? A segmentation of energy consumers based on energy-related behavioral characteristics. Energy Policy, 39(12), 8137–8152. <https://doi.org/10.1016/j.enpol.2011.10.008>

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