

## Mode choice for commuting and leisure: A matter of lifestyle?

Based on the first edition (2016) of the Swiss Household Energy Demand Survey we investigate the effect of Otte's top-down, lifestyle-based segmentation approach [1] on the mode choice for commuting and leisure. Results of a multinomial logit show that Otte's lifestyles have a significant effect on the mode choice for both commuting and leisure when controlled for income, education, age and gender. This implies

that Otte's top-down, lifestyle-based segmentation approach can be applied for identification of target groups and designing tailored interventions to promote sustainable means of transport. While entertainment-oriented seem to be an appropriate target group for campaigns to change their current mode choice, the opposite is true for reflexives and hedonists.

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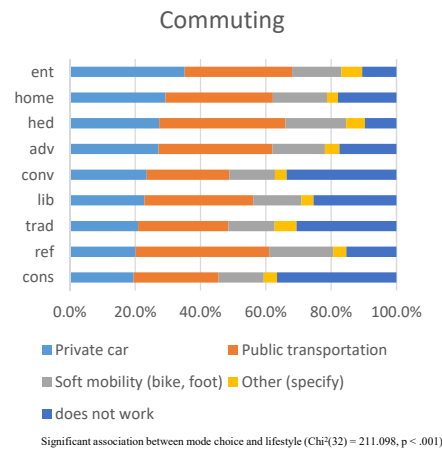
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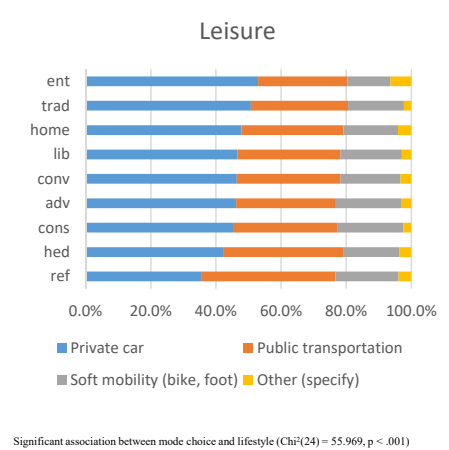
### Introduction

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 the diversity of our society. This gave rise to recent efforts dealing with segmentation concepts that could be applied for identification of target groups and designing tailored campaigns [2][3]. 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 choice of the main means of transport for commuting and leisure.

### Modal split (commuting)



### Modal split (leisure)



### Otte's lifestyles

		Modernity / biographical perspective		
		traditional	semi-modern	modern
Endowment	high	CONS (2.6%)	LIB (16.3%)	REF (11.6%)
	middle	CONV (6.7%)	ADV (29.6%)	HED (17.9%)
	low	TRAD (2.5%)	HOME (8.5%)	ENT (4.3%)

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

### References

[1] Otte, G. (2004). Sozialstrukturanalysen mit Lebensstilen: Eine Studie zur theoretischen und methodischen Neuorientierung der Lebensstilforschung. Wiesbaden: VS Verlag für Sozialwissenschaften.

### Public transport vs. car (commuting)

	b (SE)	95% CI for Odds Ratio		
		Lower	Odds ratio	Upper
Intercept	0.40 (0.74)			
Income	-0.04 (0.01) <sup>***</sup>	0.94	0.96	0.99
Education	0.09 (0.02) <sup>***</sup>	1.05	1.09	1.14
Age	-0.03 (0.00) <sup>***</sup>	0.97	0.98	0.98
Gender	0.03 (0.08)	0.89	1.03	1.20
TRAD	-0.13 (0.26)	0.53	0.88	1.48
HOME	0.19 (0.14)	0.92	1.21	1.60
ENT	0.52 (0.18) <sup>***</sup>	1.18	1.68	2.40
CONV	0.11 (0.17)	0.80	1.12	1.57
HED	0.06 (0.11)	0.86	1.06	1.32
CONS	-0.28 (0.28)	0.43	0.76	1.31
LIB	-0.22 (0.12)	0.64	0.81	1.02
REF	-0.43 (0.13) <sup>***</sup>	0.50	0.65	0.85

Note.  $R^2 = .394$  (Cox & Snell), .416 (Nagelkerke). Model  $\chi^2(48) = 2509.858, p < .001$ .  
<sup>\*</sup>  $p < .05$ , <sup>\*\*</sup>  $p < .01$ , <sup>\*\*\*</sup>  $p < .001$

### Preliminary findings

Commuting:

- Not belonging to **entertainment-oriented** group increases the probability of choosing **public transport** instead of car for commuting by 68%.
- Not belonging to **reflexives** decreases the probability of choosing **public transport** instead of car for commuting by 35%.
- Not belonging to **reflexives** decreases the probability of choosing **soft mobility** instead of car for commuting by 38%.

### Leisure

	b (SE)	95% CI for Odds Ratio		
		Lower	Odds ratio	Upper
Intercept	0.29 (0.64)			
Income	-0.05 (0.01) <sup>***</sup>	0.93	0.95	0.98
Education	0.04 (0.02) <sup>*</sup>	1.00	1.04	1.08
Age	-0.01 (0.00) <sup>***</sup>	0.99	0.99	1.00
Gender	-0.35 (0.07) <sup>***</sup>	0.62	0.71	0.81
TRAD	0.09 (0.21)	0.73	1.10	1.65
HOME	0.03 (0.13)	0.80	1.03	1.32
ENT	0.30 (0.17)	0.97	1.36	1.90
CONV	-0.04 (0.14)	0.73	0.96	1.27
HED	-0.21 (0.10) <sup>*</sup>	0.67	0.81	0.98
CONS	-0.16 (0.22)	0.55	0.85	1.31
LIB	-0.06 (0.10)	0.77	0.94	1.15
REF	-0.57 (0.12) <sup>***</sup>	0.45	0.57	0.71

Note.  $R^2 = .033$  (Cox & Snell), .036 (Nagelkerke). Model  $\chi^2(36) = 166.587, p < .001$ .  
<sup>\*</sup>  $p < .05$ , <sup>\*\*</sup>  $p < .01$ , <sup>\*\*\*</sup>  $p < .001$

Leisure:

- Not belonging to **hedonists** decreases the probability of choosing **public transport** instead of car for leisure by 33%.
- Not belonging to **reflexives** decreases the probability of choosing **public transport** instead of car for leisure by 55%.
- Not belonging to **entertainment-oriented** group increases the probability of choosing **soft mobility** instead of car for leisure by 94%.

[1] Otte, G. (2004). Sozialstrukturanalysen mit Lebensstilen: Eine Studie zur theoretischen und methodischen Neuorientierung der Lebensstilforschung. Wiesbaden: VS Verlag für Sozialwissenschaften.

[2] 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>

[3] 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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