

# Subjective and objective knowledge on mobility options and the use of public transportation: Discrepancies and mediators

S. Seebauer

<sup>1</sup> Wegener Center for Climate and Global Change, University of Graz, Graz, Austria

Knowledge is considered a precondition for behaviour (Stern 2000): Only if someone has basic knowledge about timetables, ticket prices and route networks, he is able to access public transport. Common policy measures such as mobility counselling or internet-based traveller information systems therefore aim for a modal shift by providing trip-specific information.

In contrast, the impact of knowledge on behaviour has emerged to be weak (Kaiser & Fuhrer 2003). Knowledge is interrelated with other behavioural determinants in that habits influence the acquisition of information (Fujii & Gärling 2003) and knowledge regarding environmental problems affects behaviour indirectly via personal norms (Matthies 2005). Moreover, there are some hints at divergences between the depth of information a person believes to have (subjective knowledge) and actually has (objective knowledge; Preisendörfer & Diekmann 2000).

This presentation aims to shed light on the role of knowledge for the choice of short-distance public transport, taking into account discrepancies between subjective vs. objective knowledge and mediating effects of habit and personal ecological norms. Here, knowledge refers to familiarity with routes, trip durations and costs.

The analysis draws on datasets from two surveys: (1) n=1300 persons from all over Austria, and (2) n=1200 persons from three Austrian urban regions. Both surveys include subjective/objective knowledge and habit; survey 2 also assessed personal norms. Subjective knowledge was self-assessed by subjects. Objective knowledge is indicated by estimations of ticket prices and frequency of access to information sources.

Descriptive analyses underline the extent of misperceptions of ticket prices. Structural

equation models of both datasets reveal substantial effects of subjective and objective knowledge on the use of public transportation. Results from survey 1 show that the effect of subjective knowledge is fully, whereas the effect of objective knowledge is only partially mediated by habit. Contrarily, in survey 2 habits have no effect on behaviour and do not act as a mediator. Personal norms also do not mediate the impact of knowledge on behaviour.

The different mediator effects of habit might be due to measuring habit as automaticity of transport choices (survey 1) vs. habit as a personal preference for unchanging mobility patterns (survey 2). Implications for addressing knowledge in policy measures are discussed.

## Acknowledgements

Part of this research was funded by the Austrian Federal Ministry of Transport, Innovation and Technology within the program ways2go.

## References

- Fujii, S., Gärling, T. (2003): *Development of script-based travel mode choice after forced change*. Transportation Research F, 6, 117-124
- Kaiser, F., Fuhrer, U. (2003): *Ecological behavior's dependency on different forms of knowledge*. Applied Psychology: An International Review. 52 (4), 598-613
- Matthies, E. (2005): *Wie können Psycholog/innen ihr Wissen besser an die Praktiker/in bringen? Vorschlag eines neuen integrativen Einflusschemas umweltgerechten Alltagshandelns*. Umweltpsychologie, 9 (1), 62-81
- Preisendörfer, P., Diekmann, A. (2000): *Der öffentliche Personennahverkehr aus der Sicht der Bevölkerung: Mangelnde Informiertheit, Vorurteile und Fehleinschätzung der Fahrzeiten?* Umweltpsychologie, 4 (1), 76-92
- Stern, P. (2000): *Psychology and the Science of Human-Environment Interactions*. American Psychologist, 55 (5), 523-530