

The situational dependency of action models: Determinants of bicycle use for shopping trips

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Action models aim to explain and predict pro-environmental behaviour. Besides the advancement of psychological theory, they are relevant for the design of policy measures: The main determinants in action models are assumed to constitute preferential starting points for interventions. Moreover, models of travel demand or economic models might derive elasticities of individual demand from psychological action models.

However, these applications are often implemented within specific situational contexts, such as geographical regions or economic sectors. Bamberg, Hunecke & Blöbaum (2007) and Seebauer (2009) showed that coefficients in action models for the use of public transportation vary between cities. Behaviour is embedded in situational contexts, but if the relevance of general, situation-unspecific behavioural determinants depends on the situation, results of action models may not be fully generalized.

We investigate whether an action model that explains bicycle use applies in the same way to nested situations. The model consists of the situation-unspecific psychological determinants environmental attitudes, social norms, desire for physical activity, habit, subjective knowledge on bicycle routes, and flexibility. An identical model structure is applied to explain (i) general bicycle use, (ii) bicycle use on shopping trips, and (iii-vi) bicycle use in four distinct shopping situations: shopping of food at neighbourhood stores or discounters as well as shopping of clothes in the town centre or in shopping malls.

We use data from a recent survey of n=690 Austrians on shopping behaviour. All six models use the same set of indicators on the same response scales. Multiple group comparisons of structural equation models

serve to identify differences between situations. For the models (iii)-(vi) in distinct shopping situations, measurement invariance is established. All models achieve satisfactory model fit and explain 50-70% of the variance in bicycle use.

Structural coefficients of the model for general bicycle use (i) and the model for bicycle use on shopping trips (ii) are largely similar. Habit, desire for physical activity and flexibility are the main determinants. Nevertheless, concerning the four distinct shopping situations in (iii)-(vi), models with identical coefficients are rejected. For example, social norms only influence bicycle use for shopping food at neighbourhood stores, whereas habits are most relevant for buying clothes in the town centre.

The impact of situation-unspecific determinants varies between situations. Thus, our results indicate that policy recommendations and elasticities from general action models should be validated through complementary surveys before they are transferred to specific contexts. Further research should try to integrate main contextual attributes in action models.

Acknowledgements

This research is funded by the Austrian Climate and Energy Fund within the program New Energies 2020.

References

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