

Children's independent travel to primary school – findings from a medium-sized suburban town in Germany

Joachim Scheiner, Oliver Huber

Prof. Dr. Joachim Scheiner, Technische Universität Dortmund, Faculty of Spatial Planning, Department of Transport Planning, 44227 Dortmund, Germany

phone ++49-231-755-4822, fax ++49-231-755-2269, e-mail joachim.scheiner@tu-dortmund.de

Oliver Huber, Technische Universität Dortmund, Faculty of Spatial Planning, Department of Transport Planning, 44227 Dortmund, Germany

phone ++49-231-755-6932, fax ++49-231-755-2269, e-mail oliver.huber@tu-dortmund.de

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## Abstract

The past decade has seen a tremendous increase in research on children's trips (see Helbich, 2017; Moran et al., 2016; Race et al., 2017; Sharmin and Kamruzzaman, 2017 for recent studies). This research is motivated by a number of concerns including

- Child obesity and deficits in motor skills and cognitive development, which are related to a lack of independent mobility and active travel (walking and cycling);
- Children's decreased independence and knowledge about their environment, both of which have been linked to children being increasingly driven by their parents;
- Negative environmental, social and financial effects of free school choice and the associated increased trip distances and modal shifts towards the car;
- Increasing political interest in family issues including their time budgets and mobility;
- Increasing interest among transport researchers to better understand the social fabric of travel and mobility.

For Germany there continues to remain a striking lack of research on the topic. This is despite the early contribution of Germany to research about child mobility (Hillman et al., 1990).

There are virtually no studies from Germany that investigate child mobility using multivariate methods to simultaneously study multiple factors that affect child mobility (see Scheiner, 2016, for a gender perspective). The available national travel surveys permit to do so only to a very limited extent, because important variables are missing. Neither the German Mobility Panel nor 'Mobilität in Deutschland' include georeferences of trip origins and destinations. This implies that detailed information about the built environment and the road network cannot be matched with the data. What is more, the surveys do not include attitudinal information with respect to mode use preferences, attitudes towards the social environment, safety and security. This is especially detrimental to the analysis of children's trips, as existent research suggests that parental decisions to take their child to school and pick him/her up on for the return trip are strongly subject to concerns about traffic safety, 'stranger danger' and lack of social capital in the neighbourhood.

The paper contributes to the growing research on children's trips, particularly with respect to two related issues

1. It studies the individual, household-related, and environmental factors that contribute to higher or lower levels of children's independent travel. Particular focus is placed on road infrastructure, road safety, and urban form factors.

2. For those children who are accompanied to school by their parents, the paper takes a gender perspective to study the factors that affect the parental work distribution of child escorting.

The data used were collected in 2017 in a questionnaire survey. Parents of children in one of seven primary schools (forms 1-4) were asked to complete a questionnaire that included questions about the child's trip to (and from) school, child sociodemographics, household sociodemographics, travel behaviour of the responding parent and her/his partner, their attitudes and concerns about safety, security, mobility, the social environment, and the transport environment on the trip to school, attitudes about household gender worksharing, and the household residential address. A response rate of 60% resulted in n=1,064 completed questionnaires. The survey was conducted in Lünen, Nordrhein-Westfalen. Lünen is a medium-sized town located at the border between the metropolitan Ruhr area and the more rural Münsterland. It has a distinct suburban character, and it can be considered a somewhat typical representation of mid-to-late 20th century developments in low-to-middle-class regions.

The impact of urban form and transport infrastructure along the trip is of particular interest from the perspective of urban development and transport planning. Detailed information was extracted from digital sources and collected on site, and matched with the survey data. This includes information on speed limits, the classification of roads, number of lanes, walkway designs, pedestrian crossing facilities, right-of-way regulations at intersections, traffic loads, heavy traffic loads, land-use along the trip, traffic safety, and sociodemographic information in the area.

The data are analysed using descriptive statistics and hierarchical binary logistic regression that is used to understand correlates of child escort and gender workshare.

At the time of writing the processing and analysis of data is ongoing, and results are not yet available. It can be said, however, that preliminary findings show a nuanced interplay between socioeconomic and demographic factors, parental attitudes, urban form and the transport environment.

Conclusions for transport planning, urban planning and travel demand management will be drawn and presented accordingly.

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