

Children's independent mobility in Germany: Where is Germany heading?

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Abstract:

A follow-up research based on the 'One False Move' study conducted by Mayer Hillman in 1990 has shown that independent mobility amongst children in Germany has decreased over the last 20 years. The travel behaviour of German primary school children has turned to a much lower level of independent mobility.

Key words: children's independent mobility, One False Move, Germany, road safety

Introduction

How safe are children in today's traffic? Looking at the long term development of German road safety statistics there is reason for optimism. Since the 1970s the numbers of children killed or injured in traffic incidents has consistently dropped among children aged 15 years and younger, with a short period of increasing numbers after the German reunion. This development can be noticed in statistics published by the Federal Statistical Office (Statistisches Bundesamt, 2010) or the German Social Accident Insurance (Deutsche Gesetzliche Unfallversicherung, 2010). But do these numbers really mean that German roads have become safer for children?

This question was asked by the British researchers Mayer Hillman, John Whitelegg and John Adams (1990) in their study *One False Move – A Study of Children's Independent Mobility* from 1990, which is frequently quoted today. Their research interest was triggered by a campaign by the UK Department for Transport illustrated in Figure 1. While reductions in the numbers of children killed or injured in traffic were praised as the result of road safety measures, the campaign illustrated another view on road safety

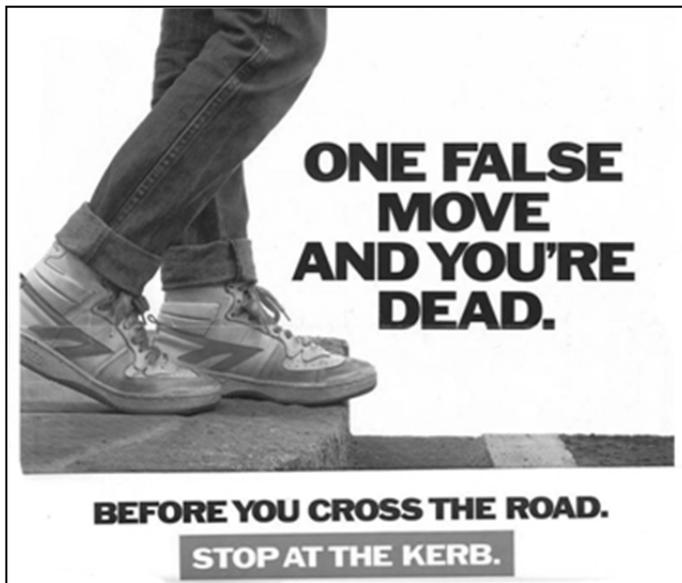


Fig. 1 Poster from the One False Move Campaign, Department for Transport, ca. 1989.

The campaign *One False Move* showed in a very dramatic way how dangerous it was to participate in traffic as a pedestrian. For Hillman, Whitelegg and Adams (1990) this fact sent mixed messages. On the one hand, there was the message that roads had become safer because of fewer accidents, and, on the other hand, such frightening campaigns as the *One False Move* campaign were launched. Therefore the authors came up with the thesis that dropping numbers of children killed or injured in road accidents could not be the only indicator for safe roads.

In previous studies in the 1970s Hillman had already noticed an increasing number of children taken to school by their parents, either walking or using the car. Hillman combined this observation with the above mentioned paradox to put forward the thesis that there are less road victims because there are less children travelling on their own and because of that are confronted with less risk while travelling. Therefore road safety statistics had been highly influenced by changes in the modal split on the way to school or by an increasing amount of parental supervision.

With the aim to have comparable figures on this so called children's independent mobility the results from research with children aged 7 to 15 were used in the *One False Move* study from 1990 to show at which costs - assuming that non independent travel has a negative impact on the growing up process of children - the reduced numbers of road accidents had been bought.

The term *children's independent mobility* was not explicitly defined in the 1990 report and even today a clear definition is still missing (Mikkelsen & Christensen, 2009).. However, in common with the understanding of mobility as the capability of a single person for (spatial) movement and traffic as the sum of people moving from point A to point B (Gather, Kagemeyer, & Lanzendorf, 2008); Nuhn & Hesse, 2006) the concept of the so called *six licenses* was employed to measure children's independent mobility. Using these six licenses the authors assumed that a maximum of independent mobility was reached by the child that had fewer restrictions for choosing, for example, the mode of transport. These six licenses were:

- crossing main roads,
- going alone to leisure activities,

- coming home from school alone,
- cycling on main roads,
- using public transport,
- being outside alone after dark (Hillman, Adams& Whitelegg, 1990)

The results from the 1990 study supported their thesis, as the amount of children with a high level of independent mobility had dropped significantly since 1970. In addition to this temporal comparison in England, the study was conducted in Germany in the federal state of North Rhine-Westphalia at five primary and five secondary schools with comparable urban characteristics to those ten schools surveyed in England. The results showed differences between English and German children. As presented in Figure 2, about eight times more German primary school children aged 7 years were permitted to come home from school alone than their English counterparts. In all age groups more German children were allowed to come home from school without supervision. However, these differences between both countries could not be explained in a satisfying way.

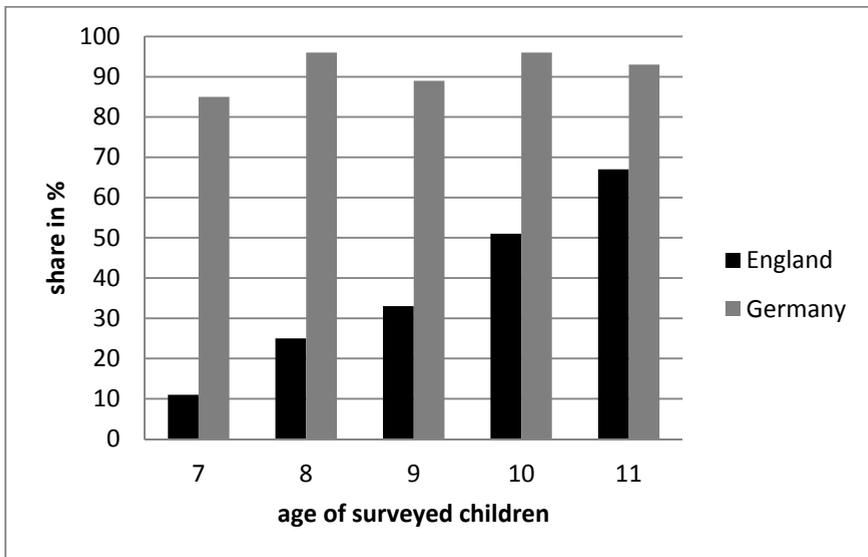


Fig. 2 License to come home from school alone among German and English primary school children in 1990. Adapted from: Hillman et al. 1990: 131

The 2010 study – Cause and methodology

With the financial support of the German Road Safety Council (Deutscher Verkehrssicherheitsrat) it was possible to conduct a follow up study in 2010 in order to monitor changes of children's independent mobility at those schools that had already participated in 1990. From today's view a change in children's independent mobility was expected because of the following facts:

- By comparing the results of KONTIV 1982 and MiD 2008, both mobility and travel studies with a comparable methodology, we can conclude that there has been an increased car use from 1990 to 2010 (Infas & DLR, 2010).
- In the federal state of North Rhine-Westphalia fixed catchment areas for primary schools have been dissolved with the result that children may attend a primary school of their parents' choice, which is not necessarily the nearest school to their home. In addition to that, parent-child time relations have been changed because of the introduction of all day-school in German primary schools.
- Since 1990 there have been less road accidents with children involved (Statistisches Bundesamt, 2010)

Based on the research interest of the 1990-study and the above mentioned possible influencing factors on children's independent mobility, this study aimed to

- illustrate possible changes in children's independent mobility at the ten schools surveyed in 1990,
- identify influencing factors that may have affected children's independent mobility
- show a possible connection between today's level of children's independent mobility and the noticeable decline in road casualties.

The survey was conducted at five primary schools and five secondary schools in North Rhine-Westphalia. For a reliable comparison those schools from the 1990 study in Bochum, Köln-Mitte, Köln-Chorweiler, Witten and Wuppertal were contacted and asked to participate again to minimise

influences by different spatial circumstances. All primary schools from the 1990 study agreed to participate again, for three secondary schools a replacement school with a comparable situation had to be found.

A similar methodology and questionnaire were kept for the 2010 study and the surveys were conducted on the same Monday in February. This time of the year was chosen on purpose in 1990 to gain a picture of children's mobility at the time of the year when more parental restrictions had to be expected. A Monday was chosen so that the children questioned would have a fresh memory of their weekend activity.

In total 801 children aged 7 to 15 were surveyed during the study. Children in 2nd to 4th grade (primary school) and 5th to 9th grade (secondary school) were asked to fill out identical questionnaires during a regular school lesson. In primary school the questionnaires were read out loud so that the children were able to follow the questioning process. In addition, every child received an envelope that contained a questionnaire for their parents. This was coded identically to the questionnaire that had been filled out by the child so that the children's answers could be analysed against their parents' answers. In total 579 parents were surveyed; the return rate was 89% in the primary schools and 62% in the secondary schools.

The focus of the questions was different in the children's and the parents' questionnaire. The children were primarily asked about their behaviour in traffic, especially about their traffic-related action on the day of the survey and the previous weekend. The parents were asked about the permission they grant their children regarding their mobility, about their general attitudes and statistical facts concerning their household.

Key results: Less mobility, more inactive travel

The main results can be summed up in two conclusions:

- The mobility of primary school children in 2010 is much more restricted than in 1990.
- The restricted mobility leads to locally differing travel patterns of children and parents.

Among the secondary school children no distinctive changes could be observed regarding their mobility. In contrast to that, the mobility and travel patterns of primary school children have changed a lot. They are granted all six licenses or permissions much later than in 1990. This delayed granting of licenses is illustrated in Figure 3, with reference to public transport use.

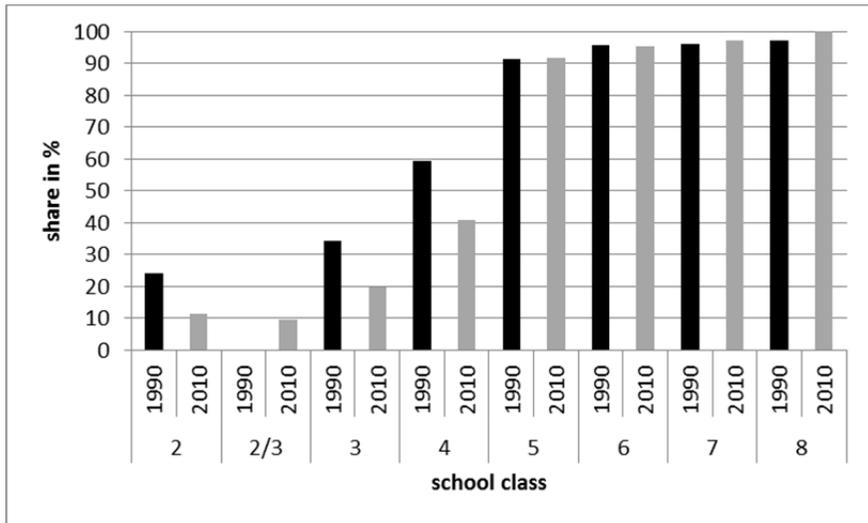


Fig. 3 License to use public transport without adult supervision, 2/3 = combined class at one primary school

These observed restrictions mean a decline in independent mobility of primary school children. They are restricted in their options for participating in traffic because they are, for example, not allowed to come home from school without adult supervision or to cross main roads. There is also a noticeable change in the chosen modes of transport or parental escorting behaviour. Especially the primary school in Witten and the one in Köln-Mitte have developed two distinctive travel patterns.

As shown in Figure 4, the primary school in Witten has developed from a nearly pure *walking school* (95% walking in 1990) to a very car dependent school with 45% of the pupils collected from school by car. A different development took place at the primary school in Köln-Mitte. There the car only plays a minor role in the modal split. However, in contrast to 1990, when 95% of the pupils were allowed to come home from school alone,

today only 65% are allowed to do so. This means that an increasing number of children are accompanied by adults.

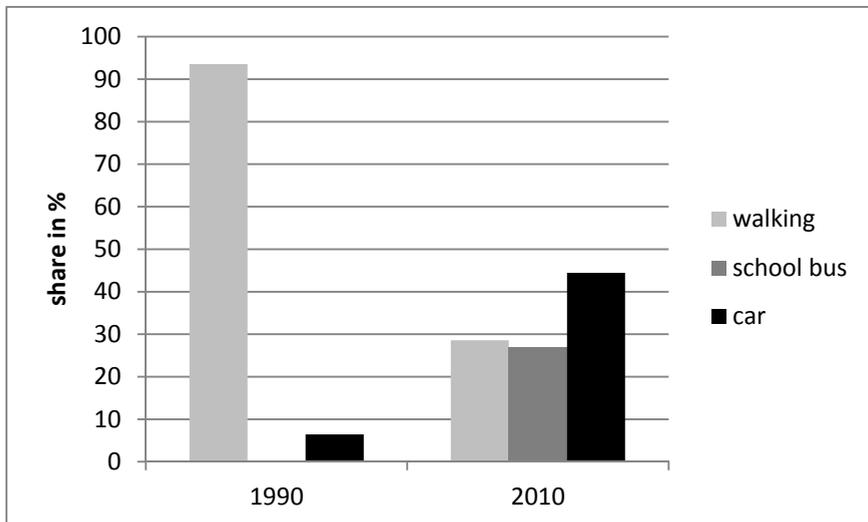


Fig. 4: Modal split of surveyed children at the primary school in Witten on the way home

The quantitative research was able to identify some possible explanations for the observed changes and have been complemented by qualitative interviews with representatives of the school's administration, parent councils and local police. This combined methodology of quantitative and qualitative elements allows a deeper insight into the situation at those two schools with the largest changes in children's independent mobility and participation in traffic. In the end three major influencing factors can be identified:

- Children not visiting the nearest school to their home tend to be driven by car.
- The parental perception of the risks to participate in traffic has risen.
- The introduction of the so called "Offene Ganztagschule (OGS)", an optional all-day school for primary school children which did not exist in Germany before.

The distance to school plays an important role at the primary school in Witten as about half of the pupils do not attend the nearest school they could.

This is a result of the closure of another school near to the surveyed school and the good reputation this school has within the city of Witten (interview school administration and parent council). The influence of not attending the nearest school applies to all primary schools in the study. 80% of all children not attending the nearest school to their home are being escorted by their parents and in 42% of all cases this escorted trip is done by car. While among the two schools covered here this aspect influences the primary school in Witten much more than the school in Köln, the effect of parental fears concerning the dangers of unescorted trips have risen at both schools. These fears include the risk of the child being injured in traffic or that children might be attacked by other adults or children. Seen from the outside these rising fears seem without any reason as there have been no injured or killed children in traffic at both school for at least the last 20 years and there have not been acts of violence tracked by the police (interviews with all expert groups at both schools). A reason for the increasing amount of parents picking up their children from school seems to come from the changed time structures in the families because of the introduction of OGS. Parents seem to have the feeling that they spent less time with their children because of the all day school; 50% of the pupils in Witten and about 95% of the children in Köln-Mitte attend. Therefore they take the opportunity to pick up their children from school because school and workdays end at about the same time. This effect is therefore not necessarily connected with fear about road safety (interviews parent councils).

Relevance of the results for road safety and children's development

The results of the 2010 survey and the identified changes in children's independent mobility give enough evidence to think about the implications these results have for interpreting road safety statistics, and to consider accident prevention and urban structure. The thesis set up by the authors of the *One False Move* study from 1990 still seems to be valid. The current survey identified a decline of children's independent mobility in Germany, although the level of independence varies largely between different locations as shown above. This decline goes along with a change in the modal split

and the numbers of children escorted to school. Therefore it is more likely that the falling numbers of children injured or killed in traffic can be highly modified by the outcome of a declining independent mobility. If for example the amount of children walking to school has fallen from 95% to about 30% (primary school Witten), and the amount of parents escorting their children has risen as well, participating in traffic as a pedestrian may absolutely have become statistically safer, but may have risen relatively. This means that the traffic conditions have not become safer. Children are now only less exposed to traffic dangers. These findings make the demand by Hillman, Whitelegg and Adams (1990) to use the level of children's independent mobility as an indicator for (perceived) road safety in Germany now more relevant than ever. Our survey suggests that the level of independent mobility may at least be a hint that parents perceive dangers in their living environment that cannot be shown by statistics on road accidents.

In order to achieve a maximum level of road safety it can of course be challenged whether a declining independent mobility is necessarily a negative fact. If reducing our children's independent mobility is the price we have to pay for a *vision zero*, it is morally hard to disagree with it. However, this argument leaves out how important independent and active travel is for children's development. Independent movement in public space not only gives them the chance to exercise (Unfallkasse Nordrhein-Westfalen, 2010), but it is also an essential chance to develop a continuous cognitive map of their living environment (Ulfert, 1990) as well as to build up motor skills. If children are driven to all their activities, the results may be a bad physical condition and attention-deficit. . Furthermore, they do not get the chance to learn appropriate behaviour in traffic (Unfallkasse Nordrhein-Westfalen, 2010).

Summary and perspectives - Where is Germany heading?

The follow-up research based on the *One False Move* study from 1990 shows that children's independent mobility has dropped overall at the primary schools surveyed and that two of the five schools show changes in what children are allowed to do regarding their participation in traffic. These

two distinctive patterns, that can be called a *car school* and an *escort school*, show different circumstances that contribute to parental behaviour.

The results also show that the ratings of road safety statistics need to be analysed on a larger geographical scale normalised by the amount of children traveling independently. In addition to this analytical problem, there are a couple of issues that should be addressed in future research and in the work of shareholders and stakeholders interested in road safety in Germany. There is definitely a question relating to how many restrictions are needed and how we can support children growing up to their full potential as well as having a safe environment for them to do so.

The results from the recent analysis show that we might face an increasing amount of children not prepared for independent travel and that they may suffer from the negative results outlined above. Therefore an integrated approach is needed that combines the potential of research, local councils, schools, parents, police and road safety organisations to develop safer built environments but also to address parental fears and develop smart measures like school travel plans or walking buses.

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