

Effects of financial factors on exposure and crashes of teen drivers: two examples the introduction of a Free Public Transport Pass and the effects of the economic recession

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Exposure to risk in terms of distance travelled is one of the explaining variables for understanding trends in crash involvement and road injuries of teen drivers. Accurate estimates of exposure are therefore a prerequisite for any study aiming to assess the effects of countermeasures. However, frequently accurate estimates are not available. In those studies the lack of travel data is frequently controlled for by the use of an older age group as a reference group, the assumption being that "distance travelled" follows similar trends in younger age groups as in older age groups.

Testing the validity of this assumption of similar trends in exposure, we studied distance travelled in different age groups in two conditions. Both conditions occurred in the early Nineties but affecting different populations. The first condition was the introduction of a Free Public Transport Pass for students at University and Polytechnics. The second was the economic recession that hit the Netherlands in the early Nineties and that resulted in high unemployment rates in young school leavers.

In the Netherlands, travel data have been collected for decades by means of travel diaries. We studied the travel data of 18-24 year olds separately for students and youngsters "not in school", and travel data for the older age groups. Our analysis showed the introduction of the Free Public Transport Pass to have strongly reduced car travel in the student population. The economic recession reduced car ownership and car travel only in the age group 18-24. In contrast, during the recession car travel in the older age groups was not affected.

Both changes in mobility patterns in the young age group resulted in large decline in injury crashes. For instance, injury crashes of male drivers aged 18-24 year old decreased about 50% in that period.

These results show that financial factors may have a far stronger influence on younger drivers than on their older counterparts. But more importantly, it illustrates that the assumption that mobility trends are similar for different age groups may be problematic in the case of teen drivers. Therefore, the use of older age groups as reference groups may result in incorrect conclusions.