

**Summary:**

# **Accidents, driving behaviour and safety attitudes among novice drivers**

## **Effect evaluation of revised regulations for category B driver training in Norway**

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*Novice drivers who got their license in 2011-2012 had more positive road safety attitudes, better driving behaviour, and lower crash involvement risk during the first months of solo driving, compared to drivers who got their license in 2004. These are the results of a before-after survey in connection with the introduction of new regulations for category B (passenger car) driver training in Norway. The improvements are larger among males than among females, probably because of a decrease in the proportion of young males owning a car and driving daily. Although this is probably the main explanation for reduced crash involvement, there are indications that increased amount of accompanied driving in the learning phase may have yielded an additional risk decrease. The finding of larger decrease in self-reported crash involvement per licensed driver is supported by analyses of police-reported personal injury crashes for the period 2004-2012.*

Commissioned by the Norwegian Public Roads Administration, the Institute of Transport Economics has evaluated the introduction in 2005 of new regulations and a new curriculum for category B driver training. The evaluation focussed on changes in the amount of driver training (accompanied by a traffic school instructor or a parent or other lay person), post-licence crash involvement, as well as safety attitudes and self-reported driving behaviour.

The most important feature of the new regulations was the introduction of a module-based education in four steps. The first step is a 17-hour<sup>1</sup> basic theoretical course with a focus of risk appreciation and understanding of road traffic (introduced in 2003). This course can be taken up to one year before the minimum age of starting driver training (16 years), and the course is a prerequisite for subsequent behind-the-wheel training. The subsequent steps are: Step 2 – Basic vehicle handling and driving competence; Step 3 – Driving in traffic (including a closed track slippery driving and safety course); Step 4 – Final training (including an “on-road safety course” consisting of one part with overtaking and driving on high-speed rural roads, and one part in mixed traffic). The total number of mandatory driving is 13 hours (as compared to 7.5 hours with the old regulations).

The main data source for the evaluations was web-based questionnaires, which included questions about amount of training, exposure, crash involvement, attitudes to road safety, and self-reported driving behaviour.

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<sup>1</sup> In this document, “hours” mean 45-min “school hours”

A *pre-intervention* study was carried out among drivers who were licensed in 2004 (n=1329), and two *post-intervention* studies were carried out among drivers licensed in 2008-2009 (n=2357) and 2011-2012 (n=6634).

Additionally, the results from these surveys were compared to data from similar previous surveys among drivers licensed in 1995-96 and 1998-99.

Involvement in police-reported personal injury crashes was analysed for the period 2004-2012, based on national data from Statistics Norway.

Ideally, in order to conclude with greater certainty regarding effects of the new curriculum, the evaluation should have included a control group receiving training based on the old curriculum. However, this would have required introduction of the new model only in some regions, and using remaining regions as control. Since the new curriculum was introduced on a national level from the start, it was not possible to include such a control group.

The immediate effect of introducing the basic course (Step 1) was that many learner drivers waited longer before starting their driver training (since the course was a prerequisite), compared to those who started their training before the change, and that the total amount of pre-license accompanied driving with a parent or other lay person was reduced.

However, the number of traffic school lessons increased. In addition to the increase in mandatory lessons, there was also an increase in the number of voluntary lessons. The total effect was a moderate increase in the total amount of accompanied driving (traffic school or private).

There has been a marked change in car usage among novice drivers, with implications for explaining changes in crash involvement. The proportion of males owning a car or driving daily has decreased. Consequently, in this group the average exposure has decreased, as well as the proportion of night driving during weekends. Among females the proportion of drivers without access to a car has decreased, and the exposure has increased slightly.

Both the survey results and the analyses of police-reported crashes show that crash involvement rate has decreased significantly among males (especially during the last two years), while there has been only a small decreasing tendency among females (see Figure I). The decrease among males is largely explainable by the changes in car usage described above. Different car usage also explains differences in crash involvement trends between males and females.

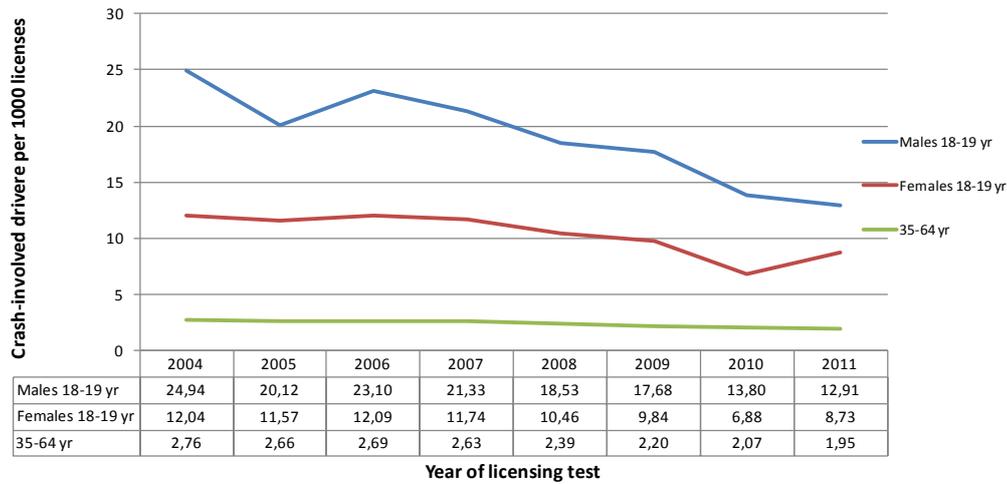


Figure I. Involvement in personal injury crashes first 12 months after licensing for male and female young drivers, by licensing year, and crash involvement of 35- to 64-year-old drivers by year of crash. Involved drivers per 1000 licenses.

The surveys show that there has been a marked positive development from 2004 to 2011-2012 in novice drivers’ safety-related attitudes, perceived traffic skills, social interaction in traffic, driving style, driving errors, driving while sleepy, and in taking relevant countermeasures against sleepy driving (see Figure II).

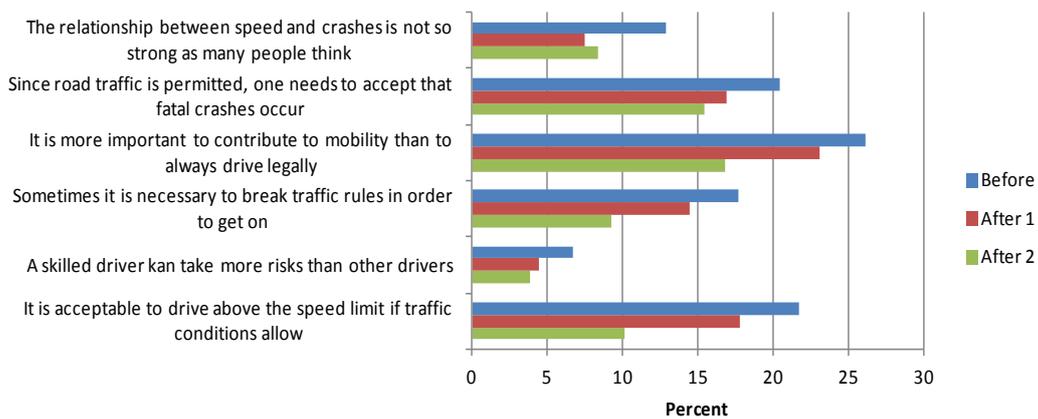


Figure II. Novice drivers aged 18-20 years who responded “agree” or “completely agree” to questions about attitudes and opinions related to speeding and road safety, by survey. Percent.

It is difficult to tell whether this change in attitudes and behaviour is specific to the car driving arena, or whether it reflects a more general trend towards more positive behaviours among young people. A stronger emphasis on safety-related attitudes in the new curriculum – and consequently in the mandatory education – may have contributed to some of the observed changes.

Concerning other possible effects of the revised category B regulations and curriculum, two results from the present study are particularly relevant. First, there is marked change in self-reported behaviour regarding environmentally friendly or fuel efficient driving. This is most likely an effect of a stronger focus on this topic in the current curriculum, compared to previous driver training.

The second result is that a high number of traffic school lessons seems to be associated with lower crash involvement risk among male drivers. This result is consistent with a previous hypothesis assuming an inverted-U shaped relationship between crash involvement and the amount of training, caused by different learning curves for subjective and objective driving skills. A moderate amount of driver training may cause an overestimation of driving skills (because confidence in one's own skills increases more than the actual skills) and consequently increased risk, whereas more extensive training will reduce the discrepancy and produce a more realistic estimation of skills, and lower risk as a consequence. Since the total amount of driver training is higher than before, more drivers are beyond the top of the inverted U, so that further training may produce lower risk.

Despite the fact that the basic course in the beginning tended to act as barrier against starting driver training, the total effect of the revised regulations has been an increase in the total amount of training, which may have contributed to some extent to lower crash risk. The increase in driving experience is, however, rather small, so the effect on crash risk is modest at best. The most important explanation of reduced risk (particularly among young males) is most likely the changes in car usage mentioned above.

One reason why it is difficult to draw conclusions about effects of the changes in training regulations on crash involvement, is the lack of a directly comparable control group in the present study.

The results give no reason to change previous hypotheses that further increase in the amount of pre-license driver training will tend to strengthen the decreasing trend in novice driver crash involvement. An efficient measure to achieve this could be e.g. to introduce minimum requirements for amount and duration of driver training.