



# BRSI

**Influence of social norm and alcohol checks on drink-driving**

Belgium compared to 18 European countries

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# Summary

## Influence of social norm and alcohol checks on drink-driving Belgium compared to 18 European countries

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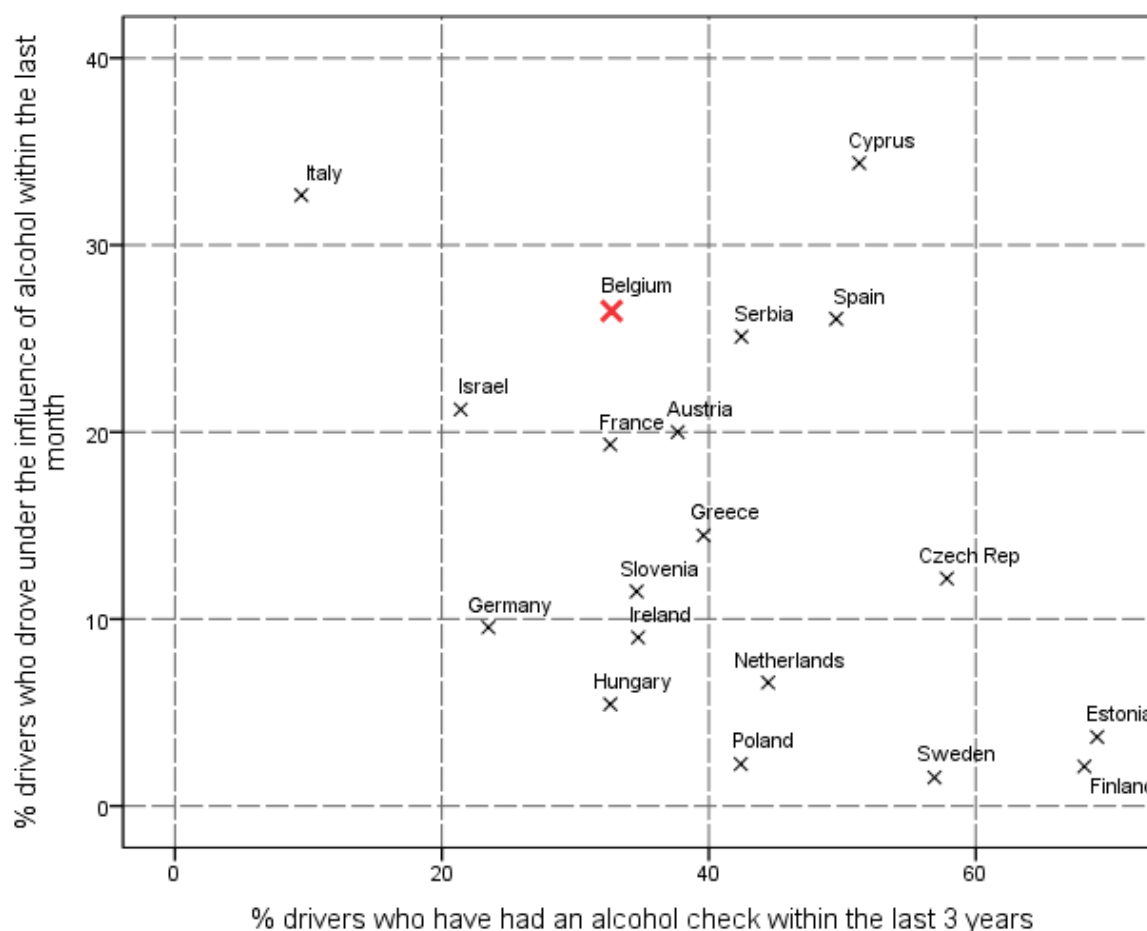
Meesmann, U., Martensen, H. & Dupont, E. (2013). *Impact de la norme sociale et du risque d'être contrôlé sur la conduite sous influence d'alcool: La Belgique comparée à 18 pays européens*. Bruxelles, Belgique: Institut Belge pour la Sécurité Routière – Centre de connaissance Sécurité Routière

## Summary

### Background and aim of the study

Belgium has a problem with drink-driving (DUI)<sup>1</sup>– and the extent of the problem is even worse than in most other European countries (see results DRUID project<sup>2</sup>). In Belgium the percentage of drivers who drink and drive with an alcohol blood concentration above the legal limit (BAC: 0.5‰) is around 2%<sup>3</sup>. On weekend nights, this percentage amounts to almost 9%. Among seriously injured drivers, 38% were tested positive for alcohol above the legal limit. In other words, although those drivers who do not respect the legal alcohol limit form only a very small minority (2%), this group is responsible for an important part of serious road accidents (38%). Moreover, the drink-driving prevalence in Belgium has improved very little within the last years. Two factors which seem to influence the prevalence of drink-driving are: alcohol checks and the social norm. The SARTRE4<sup>4</sup> comparison of European countries, showed that there is only a small relation between alcohol checks and the reporting of drink-driving ( $R^2 = 0.19$ ; Figure 1). The number of alcohol controls in each country can only explain a small part of the differences in the prevalence of drink-driving. If we compare, for example, Germany and Belgium, Germany has fewer alcohol checks but nevertheless, the Germans drink and drive less than the Belgians. Consequently, there must be additional factors explaining the prevalence of drink-driving.

**Figure 2: Relation between self-reported drink-driving over the legal limit and alcohol controls per country (car drivers)**



<sup>1</sup> Driving under the Influence: driving with a blood alcohol concentration (BAC) above the legal limit; in Belgium 0.5 ‰

<sup>2</sup> DRUID project: <http://www.druid-project.eu>

<sup>3</sup> Alcohol behaviour measure BIRS, 2012: 2.63%; DRUID road-side survey, 2008-9: 2.4%; Federal road police, 2012: 1.8%

<sup>4</sup> SARTRE4 project: <http://www.attitudes-roadsafety.eu>

A promising alternative explanation of driving under the influence of alcohol) is the influence of the social norm. The SARTRE4 project reveals among others that Belgium shows the highest numbers of drivers stating that “most of their friends drink and drive” within Europe. Apparently Belgium has a big problem with this social norm. In our study we defined “social norm” as perceived drink-driving behaviour of friends. This definition corresponds to the term “descriptive norm<sup>5</sup>” in the literature.

So far very little is known about the interrelation between alcohol checks, social norm, and drink-driving. Therefore, the aim of our study was to determine the relative effect of the social norm and alcohol checks on drink-driving. Furthermore, we also investigated other individual and national factors which might influence these interrelations.

## Method

Our study was based on the data of the European project SARTRE4. Within this project 21,280 traffic participants across 19 European countries (among whom 12,507 car drivers) were simultaneously questioned about their attitudes towards road safety. The interviews were carried out in 2010. The participating countries were Belgium, Cyprus, Germany, Estonia, Finland, France, Hungary, Ireland, Israel, Italy, the Netherlands, Norway, Austria, Poland, Serbia, Slovenia, Spain, Czech Republic and Sweden. In Belgium, the Belgian Road Safety Institute coordinated the fieldwork, as was also the case for the previous SARTRE editions.

In order to be able to simultaneously analyse the influence of factors on individual and national level, we analysed the data by means of a multilevel multiple logistics regression model. The dependent variable in this model was “self-reported drink-driving over the legal BAC limit”. The predictive variables were situated on two levels: (1) respondent and (2) country. The country data from SARTRE4 were supplemented by additional national characteristics, like the “legal BAC limit” and the “annual national alcohol consumption per capita” for example.

## Factors influencing drink-driving

The following factors turned out to have a significant effect<sup>6</sup> on drink-driving:

(1) At the individual level of the car driver

- Sex: more men declare to drink and drive than woman.
- Age: young drivers (17-34) declare more than average aged drivers (35-54) to drink and drive. Drivers at the age of 55 and older state the least to drink and drive.
- Recent experience with alcohol checks: drivers who were checked for alcohol during the last three years declare more often to drink and drive than people who were not checked for alcohol during this period (see discussion later).
- Estimated likelihood to be checked for alcohol: drivers who think that the likelihood of being checked for alcohol on a typical car journey is high, declare more often to drink and drive than people who consider this likelihood to be low (see discussion later).
- Drink drive friends: drivers who think that most of their friends drink and drive, declare more often to drink and drive than drivers who think that their friends do not drink and drive.

(2) Country (group level)

- Legal limit (BAC): in countries where the legal limit is 0.2g/L BAC, drivers declare less often to drink and drive than in countries where the legal limit is 0.5g/L BAC.
- Percentage drivers checked for alcohol: countries in which it is more likely to be checked for alcohol have a lower prevalence of drink-driving than countries in which it is less likely to be controlled.
- Drink drive friends (at national level): countries with a higher percentage of people who think that their friends drink and drive have a higher prevalence of drink-driving.

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<sup>5</sup> See also: CAST, extension of the "Theory of planned behaviour"

<sup>6</sup> In this type of multiple regression analysis factors are only significant if they make a significant contribution to the prediction that all the other factors in this list already predict.

### **The relative role of alcohol checks and social norm**

The analyses show that the effect of alcohol checks at the national level goes in the expected direction: countries where a lot of alcohol checks are carried out have a lower drink-driving prevalence. At the individual level we note the opposite effect: drivers who have been recently checked for alcohol drink and drive more often than those who have not been controlled. We observe this effect in all the countries but it is less strong in countries with a generally low drink-driving prevalence. An explanation of this unexpected inverse effect might be the selectivity of the controls (e.g. place and time of the control<sup>7</sup>). Further studies on the effectiveness of alcohol checks seem appropriate.

Regarding the social norm, we see that the effects at national and individual level go in the same direction: countries where many respondents declare that their friends drink and drive also have a higher drink driving prevalence; respondents who state that their friends drink and drive, also tend drive themselves under the influence of alcohol.

In order to estimate the overall effect of alcohol checks and the social norm, we calculated the net effects (individual plus national effects) for each of these variables<sup>8</sup>. According to our model, an increase of 10 percentage points of the likelihood of being checked for alcohol would lead to a decrease in drink-driving (initially 24.3%) to a value between 20.8% and 23.7%<sup>9</sup>. A decrease of 10 percentage points in the social norm (in our case: perceived drink-driving-behaviour of friends) would lead to a decrease in drink-driving to a value between 16.9% and 18.9%. The effect of an evolution of the social norm would thus be 10 times as strong as the effect of increased alcohol checks. This underlines the importance of the social norm.

### **Conclusion**

The results of this study indicate that the social norm, as defined in this study (perceived drink-driving behaviour or friends), plays a bigger role in the explanation of drink-driving than the number of alcohol controls. Consequently, countermeasures should not only focus on the individual but also on the social surrounding – trying to create a “don’t drink and drive” – culture. It is recognize though, that changing the social norm is a very complex process that requires a sustained effort. The current results also raise complementary questions. Therefore, we recommend further studies on the following aspects:

- Alcohol checks: effect on individual drivers taking account time and place of the controls; at the national level – the long-term effects of the likelihood to be checked
- Social norm: possibilities to influence the “social norm”.

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<sup>7</sup> It cannot be attributed to the sex and the age of the individual because we checked these factors in our study.

<sup>8</sup> Given the non-linear character of the analysis, the effect of a certain change depends on the baseline of drink-driving. So the estimation applies only if all the conditions do not change.

<sup>9</sup> An increase of the likelihood to have an alcohol check to 70% (which corresponds to the goal of the States General of the Road Safety (2007)) would, based on this model, lead to a decrease in drink-driving to a value between 17.9% and 20.7%



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