Driving a Motorcycle while Impaired

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The chapter deals with several impaired behaviours.
This presentation will focus only on alcohol.

- Driving a motorcycle under the influence of alcohol is one of the most dangerous situations in road safety.
- They are more sensitive to the effects of alcohol than car drivers. ¹

- Present an overview of the drink-driving behaviour.
- How the motorcyclists deal with road safety measures.
  - The attitude towards restraining measures.
  - The effects of legal norm and enforcement campaigns.
- Identify the drink-driving predictors.

¹ Voas et al., 2007
Drink-driving across 19 European countries

There is a great variability between countries.

- Southern countries declared more drink-driving.*
- What could explain these differences:
  - Legislation?
  - Enforcement campaign?
  - Cultural differences?
  - Norm influence?

\[ F_{(2, 4464)} = 323.07, \ p < .001, \ \eta^2 = .13 \]

Figure note: Percentage of motorcyclists who reported that they drove, at least once during the last month, after having drunk even a small amount.
Attitudes toward legal measures

Overall, a clear majority is in favour of more restrictive policy

- **Alcohol Interlock**
  - 79% approved this measure for recidivist.
  - 73% approved this measure for all drivers.
  - Italy was the only country where the majority disapproved alcolock.

- **Penalties**
  - 78% agree that drink-driving offences should be much more severely penalized.
  - A great variability across countries (from 51% in Italy to 92% in Hungary)

- **Legal BAC change**
  - 60% thought that motorcyclist should be allowed to drink « no alcohol at all » or « less alcohol than the present ».
  - Southern countries were less in favour of more restrictive BAC than Northern and Eastern countries.
Attitudes toward legal measures

Consistent pattern between attitudes and drink-driving behaviour.

- Drink-driving is negatively correlated to legal measures.
- The more the motorcyclists declare drink-driving behaviour, the less they are in favour to legal restrictions.

- The strength of the relation differs according to the region:

<table>
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<th>Eastern</th>
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<th>Northern</th>
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<th>Southern</th>
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<td>Alcolock for all</td>
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<td>-.09</td>
<td>-.11</td>
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<tr>
<td>Alcolock for recidivist</td>
<td>-.10</td>
<td>-.12</td>
<td>-.11</td>
<td>-.10</td>
<td>-.13</td>
<td>-.17</td>
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<tr>
<td>More severe penalties</td>
<td>-.19</td>
<td>-.16</td>
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<td>Reduce legal BAC</td>
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<td>-.21</td>
<td>-.35</td>
<td>-.24</td>
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Alcohol Check and feeling of impunity

No link between the number of check and the perceived risk to be fined.

☐ In average 62% had never been checked over the last 3 years,
  ■ More than 80% in Italy, Belgium, France and Slovenia.
  ■ Around 50% for Czech Republic, Spain, Cyprus and Finland.

☐ And they were rarely checked in a typical journey.

However, for 77%, there is a great risk to be fined if they drive after drinking.

Figure note: Percentage of motorcyclists who reported an alcohol check in the past 3 years
A fines effect?

Despite a fine the majority of the verbalized reoffended recently.

- 3% \((n = 126)\) reported being fined in the past 3 years.

- Overall, those who reported drink-driving had 4 times* more probability to receive a ticket:
  - Controls are efficient because they catch the offenders.
  - Controls are inefficient because they still drink before driving.

- 55% of fined motorcyclist drunk-drive over the legal limit during the last month.
  - Fines could reduce reoffending.
  - Fines may not be the solution for preventing DWI recidivism.

* Results from a multiple ordinal regression; Odds ratio are [2.5], [3] and [5.5] for Eastern, Northern and Southern countries respectively.
A legal BAC effect?

Results differ according to the type of consumption.

- More drink-driving in 0.5 g/l countries.
  - Significant differences for « even a small amount »* and marginal for « over the legal limit »**.
  - Individuals tend to use their rights.

- No difference between 0 and 1 unit legal BAC
  - When they can drink only 1 unit, they prefer to stay sober.

- Reduce the Legal BAC to 0.2 g/l could be an efficient policy to decrease drink-driving for those who respect the law.

Figure note: Drink-driving mean according to the legal BAC. Error bars indicate a 99% confidence interval.

* $F_{(2,4464)} = 124.16, p < .001, \eta^2 = .05$; ** $F_{(2,4462)} = 38.14, p < .001, \eta^2 = .01$
Age and gender.

To be taken with caution.

- **Drink-driving seems to decrease with age [OR, 1.006].**
  - For each additional years there is 0.6% chance to report less drink-driving behaviours.
  - However the relationship is unsignificant within the categories of country.
  - The result could be an artefact: in Southern countries the participants were younger ($Mage = 37.5$) and drink-drive more than in Northern countries ($Mage = 42.2$).

- **Men seem to DWI more frequently than women [OR, 2.4].**
  - 3 times more likely to report drink-driving in Northern and Southern countries.
  - Unsignificant in Eastern countries.
  - The number of women motorcyclists who reported drink-driving were very small.
A significant relationship between self-reported and friends reported behaviour ($r = .34$).

- 4.4* times more risk to drink-drive when most friends are describe as drink-drivers.
- 5.3, 3.1 and 4.3 for Eastern, Northern and Southern countries respectively.

Individuals tend to adopt the norms of their group and select their friends according to these norms.

Results confirm the importance of the social influence.

*Results retrieved from a multiple ordinal regression.

*Figure note*: ANOVA of countries differences scores for drink-driving (even a small amount) according to their friends drink-driving behaviour, $F(4, 4434) = 26.37$, $p < .001$, $\eta^2 = .03$. 
Feeling of control.

Drink-drivers seem confident in their skills.

- Thinking that you can drink and drive if you do it carrefully improve the risk to adopt this behaviour \([\text{OR}, 5.5]\)^1.  
  - 7, 8.3 and 3.6 times for Eastern, Northern and Southern countries respectively.  
  - Even if you drink over the legal limit \((r = .34, p < .001)\).

- Moreover, drink-driving is correlated with the belief it do not increase the risk of accident \((r = .24, p < .001)\).

- Some drink-drivers seem to think they can drive safely if they compensate by a more careful driving...

But the feeling of control is not the control.  

\[
\text{Drink-drivers also reported... more accidents*}
\]

* Results from probability in ordinal regression.
Discussion:

- 23% of the motorcyclists declared that they drove after drinking, at least once during the last month.
- Southern countries reported more frequent drink-driving than Eastern and Northern countries.
- Legal measures have a moderate effect on offences and recidivism.
- Other variables could be used in prevention campaign: Feeling of control, Peer influence.
- Take into account the regional differences.
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Thanks for your attention