International ESRA Conference

Traffic Safety Culture and Performance Indicators

April 21, 2022, ONLINE

Université Gustave Eiffel

ESRA
www.esranet.eu
E-Survey of Road users' Attitudes

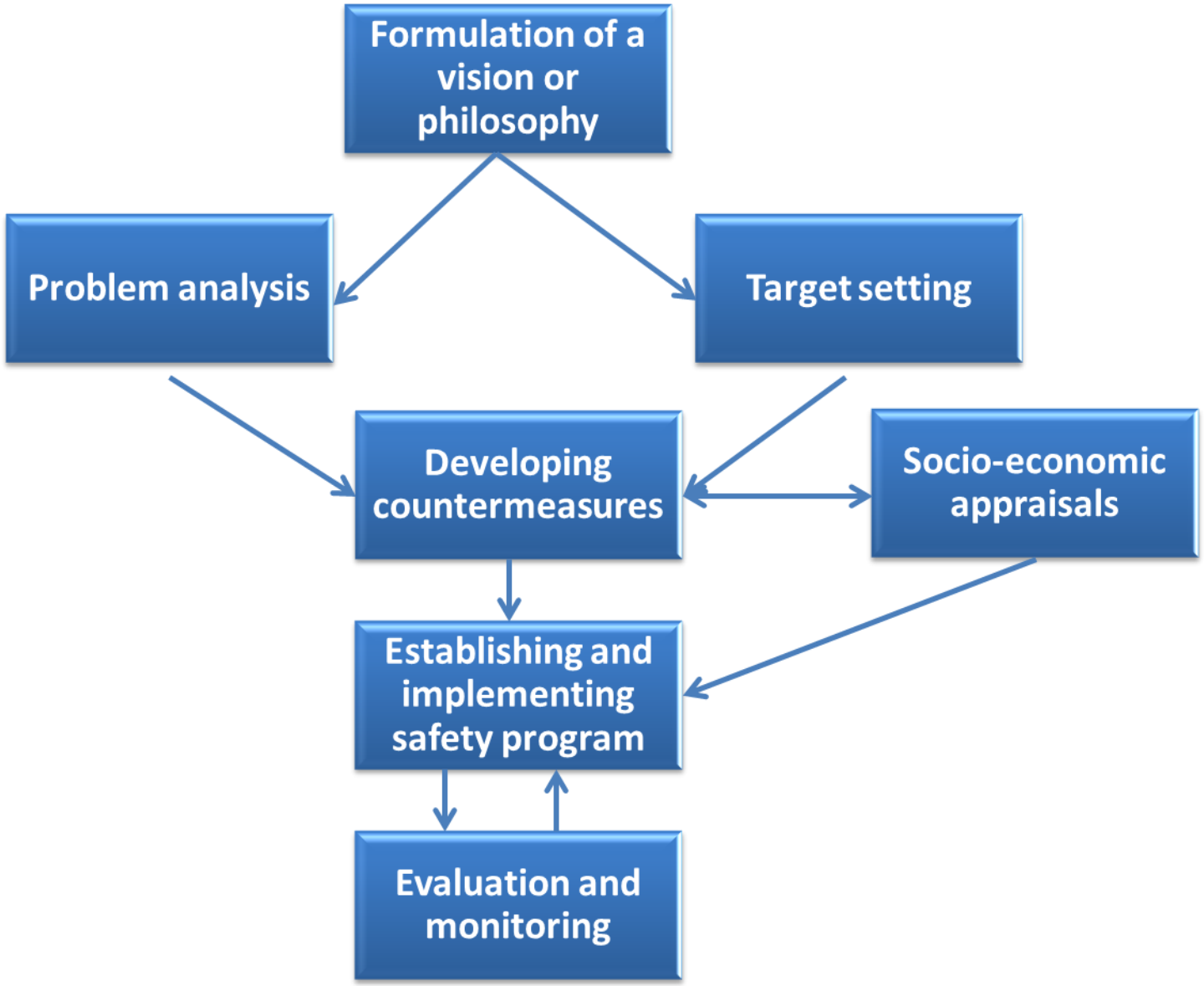
Crash data, self-declared and observed behaviours

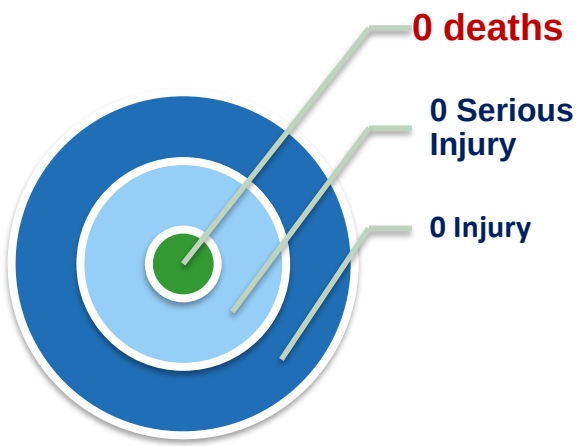
Driving Under the Influence of Alcohol in Portugal

Alain Areal

Portuguese Road Safety Association (PRP)

Road Safety Planning





Key Performance Indicators (KPI)

Crash statistics	Observed behaviours (Baseline project)	Survey research ESRA
• Collision and casualty data from police • Hospital and insurance records	• Speeding • Use of seatbelts and child restraint systems • Use of protective helmets by riders of bicycles and Powered Two-Wheelers • Driving under the influence of alcohol • Distraction by a mobile device • Vehicle safety • Infrastructure • Post-crash care	• Use of different transport modes • Self-declared behaviour • Acceptability • Attitudes • Involvement in road crashes • Subjective safety and risk perception • Support for policy measures • Opinions and experiences with enforcement measures

Road Safety - Key Performance Indicators (KPI)

'any measurement that is causally related to crashes or injuries, used in addition to a count of crashes or injuries in order to indicate safety performance or understand the process that leads to accidents'

European Transport Safety Council (ETSC)

- reflect the current safety conditions of a road traffic system;
- allow to compare between different road traffic systems (e.g., countries, regions);
- allow to monitor the progress;
- allow to measure impacts of safety interventions;
- can be used to give directions and to support policy decisions.

Key Performance Indicators (KPI)

Surveys

- Allows to collect useful information on road safety performance and road safety culture;
- Provide insights into socio-cognitive determinants of behaviour: attitudes, perceived social norms, risk perception, or existing habits

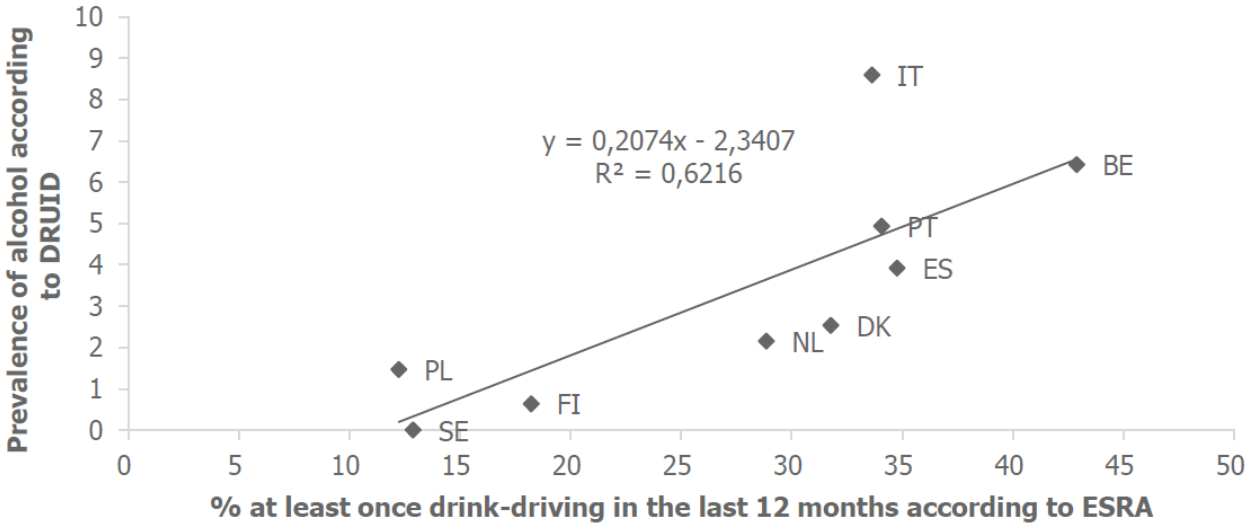
If online:

- Surveys are a relatively fast and inexpensive way to obtain indicators on safety culture and road users' behaviour.
- The same questionnaire and methodology allow comparisons amongst countries/regions and monitoring over time

Observed behaviours vs. self-declared behaviours

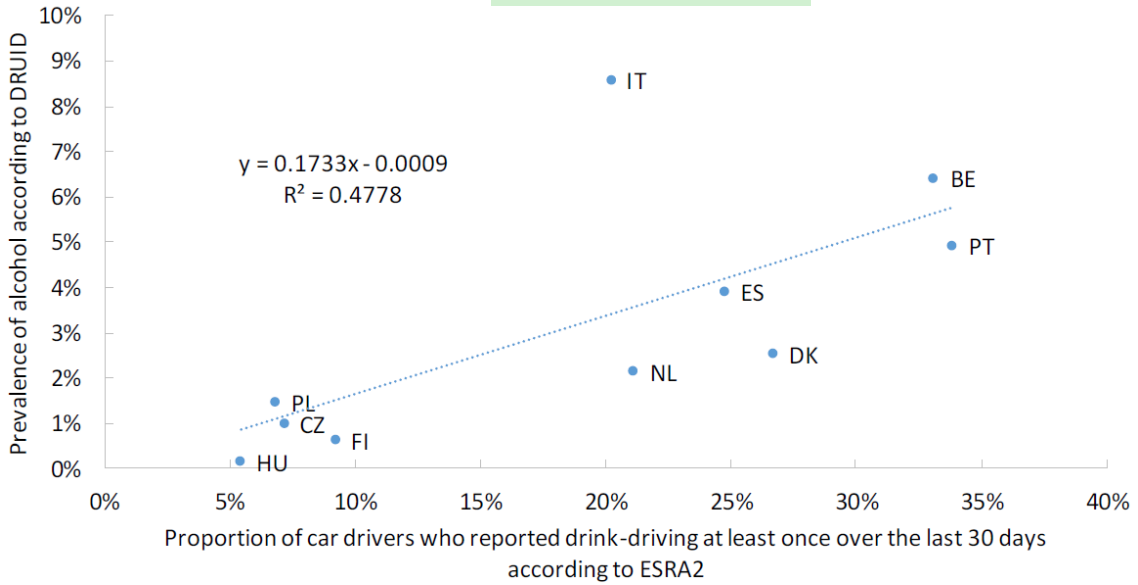
There is a correlation between the two measures at a country level

ESRA1 (1)



Drink-driving in the past 12 months according to ESRA1 and prevalence of alcohol according to DRUID.

ESRA2 (2)



Self-declared drink-driving at least once over the last 30 days according to ESRA2 and prevalence of alcohol according to DRUID.

(1) Achermann Stürmer, Y. (2016). **Driving under the influence of alcohol and drugs. ESRA thematic report no. 2**. ESRA project (European Survey of Road users' safety Attitude). Bern, Switzerland: Swiss Council for Accident Prevention.
(2) Achermann Stürmer, Y., Meesmann, U. & Berbatovci, H. (2019) **Driving under the influence of alcohol and drugs. ESRA2 Thematic report Nr. 5**. ESRA project (E-Survey of Road users' Attitudes). Bern, Switzerland: Swiss Council for Accident Prevention.

Key Performance Indicators (KPI) and policy measures – example on DUI in Portugal

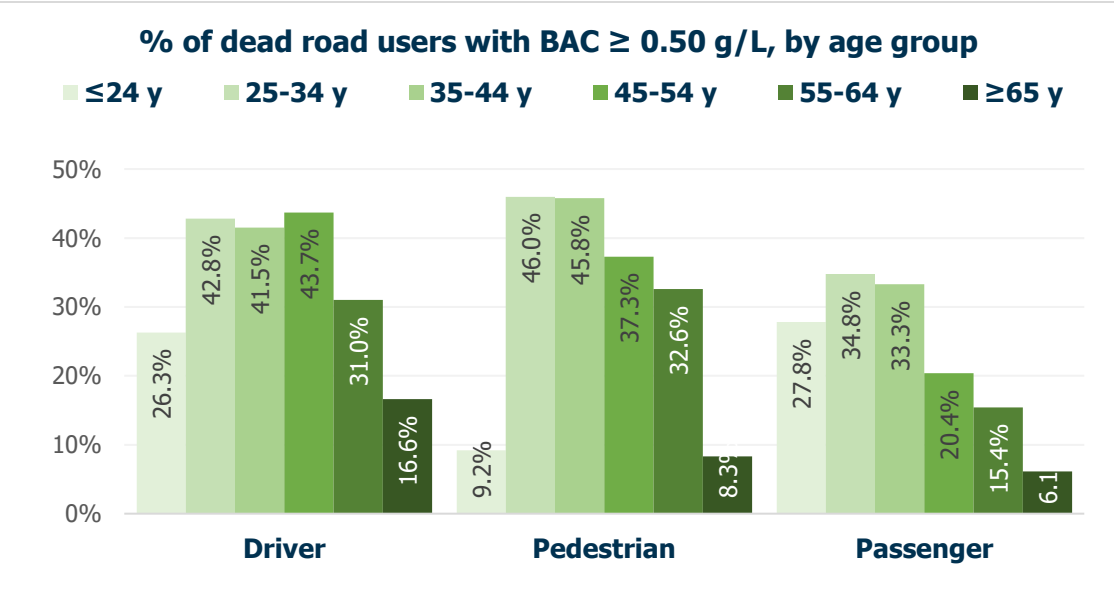
Crash statistics

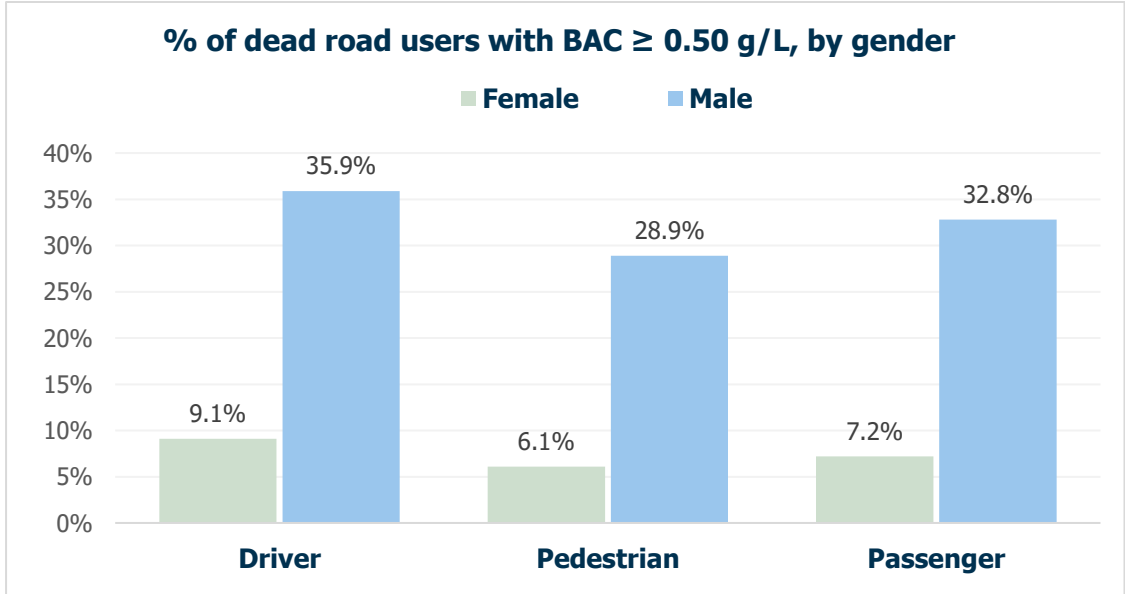
Dead road users by level of BAC

	BAC > 0.0 g/L	BAC ≥ 0.5 g/L
Drivers	42.4%	33.3%
Passengers	32.0%	20.7%
Pedestrians	27.8%	20.6%

% of dead road users with BAC ≥ 0.50 g/L, by day/time

- Weekdays: 17.3%
- **Weekend days: 27.4%**
- **From 21:00 to 06:00: 39.0%**
- From 06:00 to 21:00: 14.7%



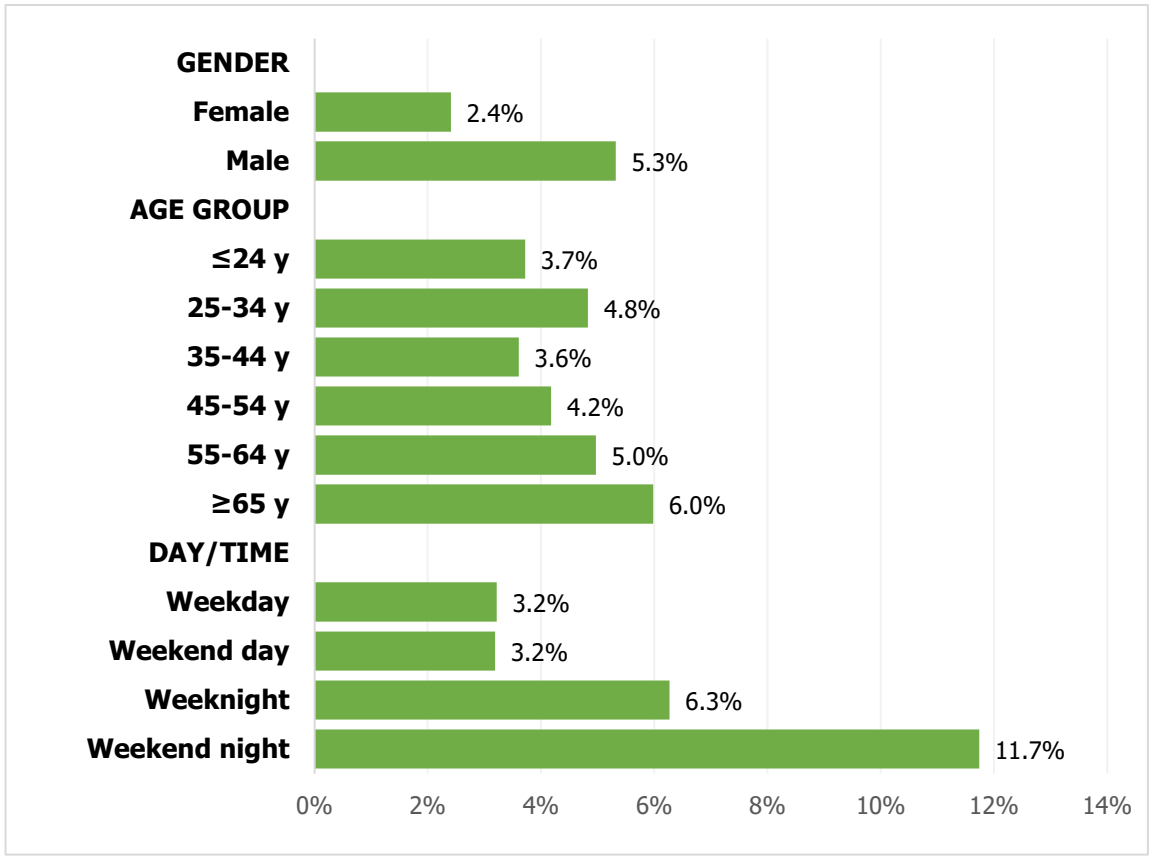


Key Performance Indicators (KPI) and policy measures – example on DUI in Portugal

Roadside survey - observed behaviours (Baseline 2021 - preliminary results)

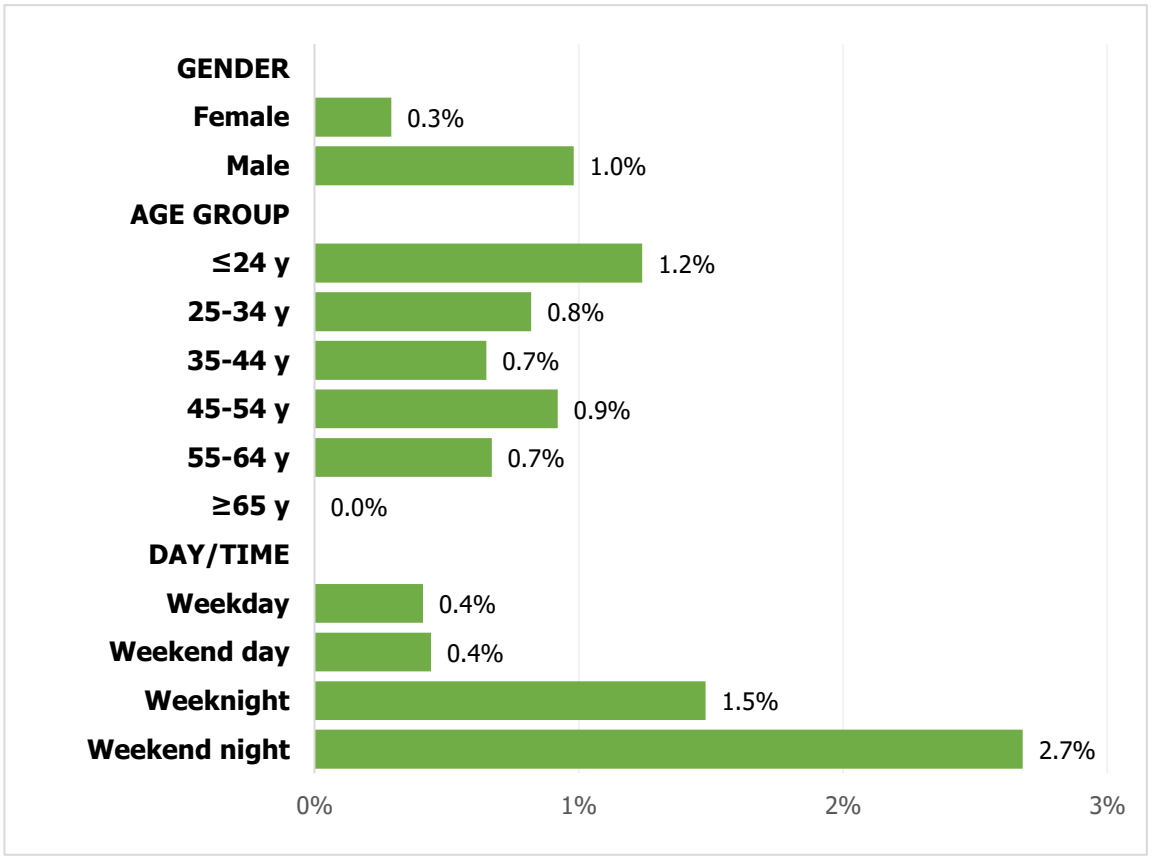
Car drivers with BAC > 0.0 g/L

4.40%

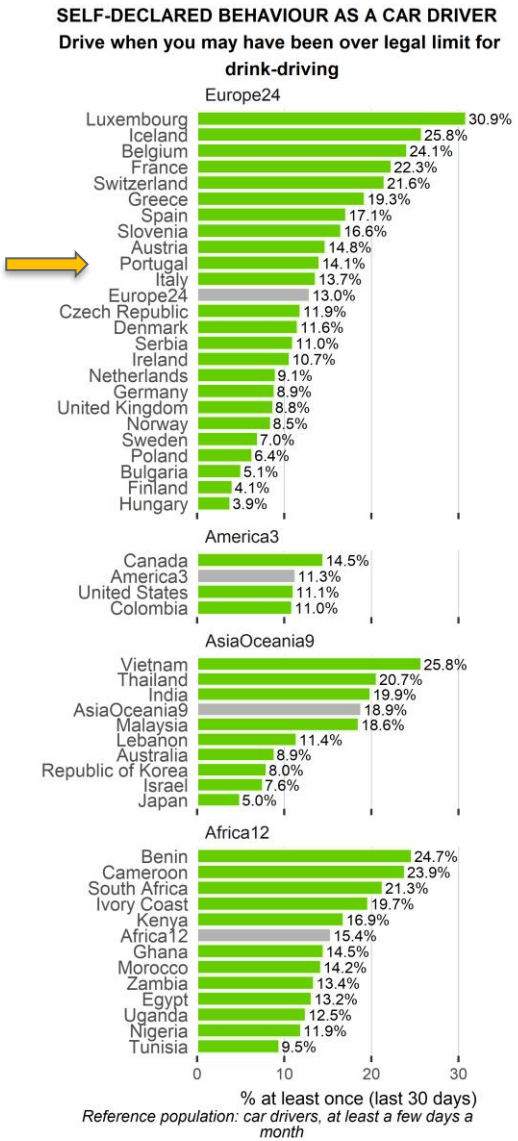


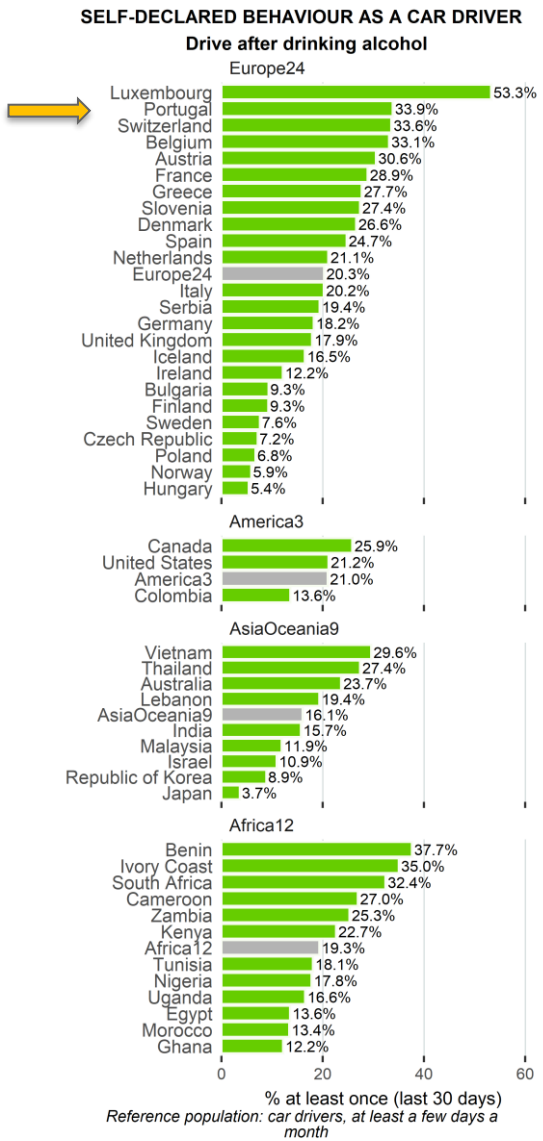
Car drivers with BAC ≥ 0.50 g/L

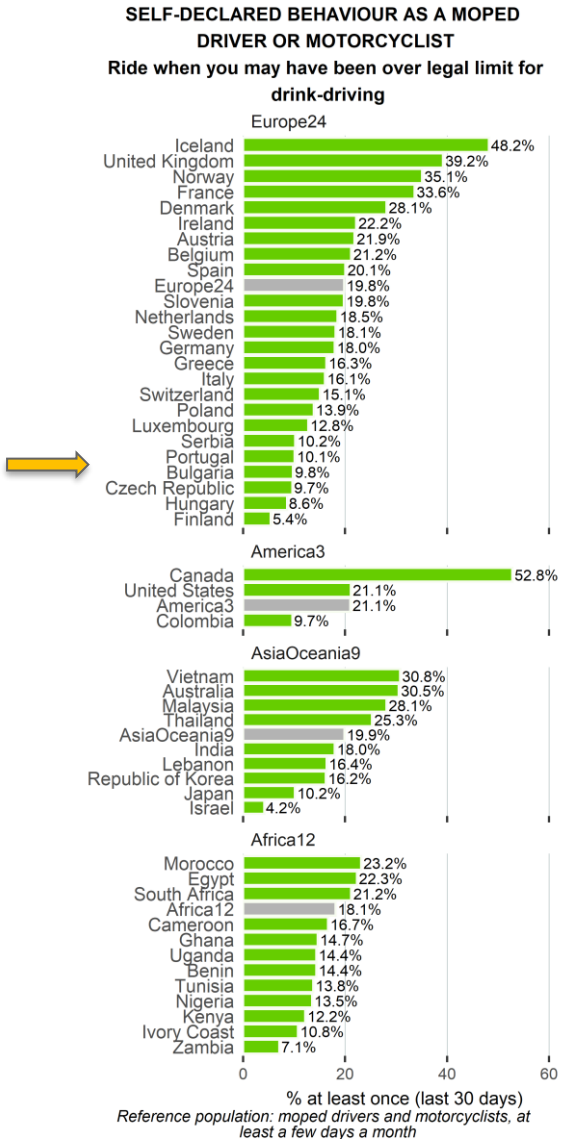
0.76%

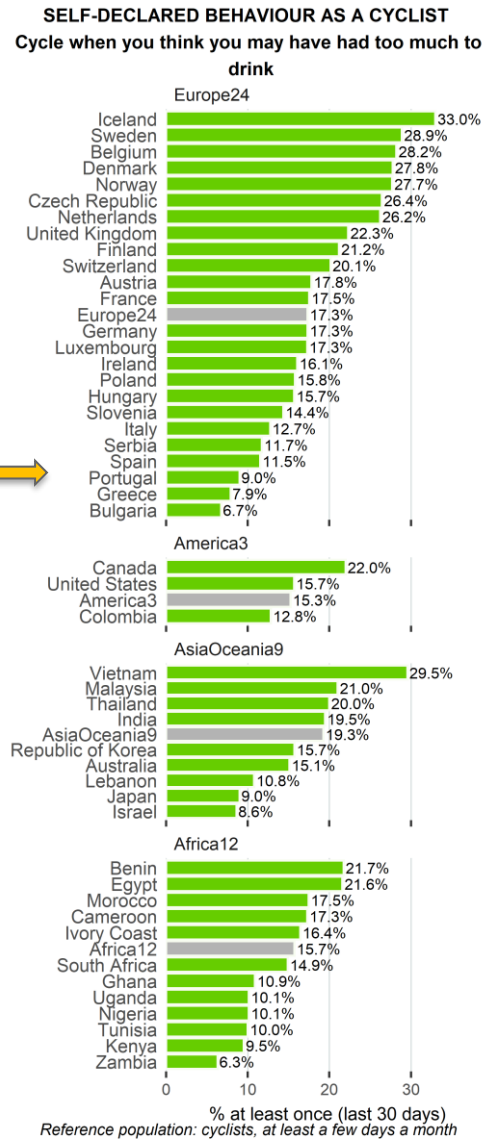


Self-declared behaviours – ESRA2

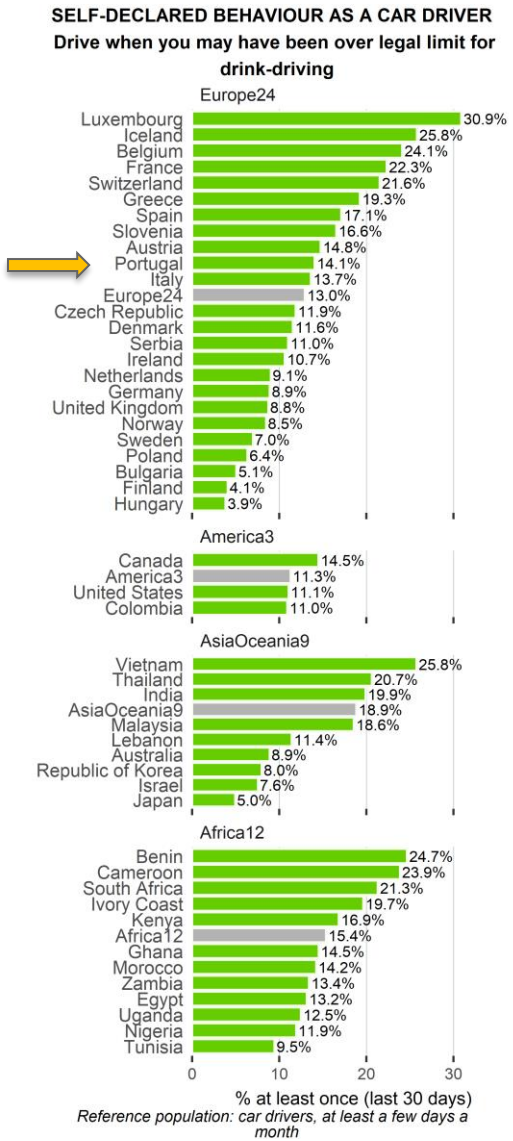


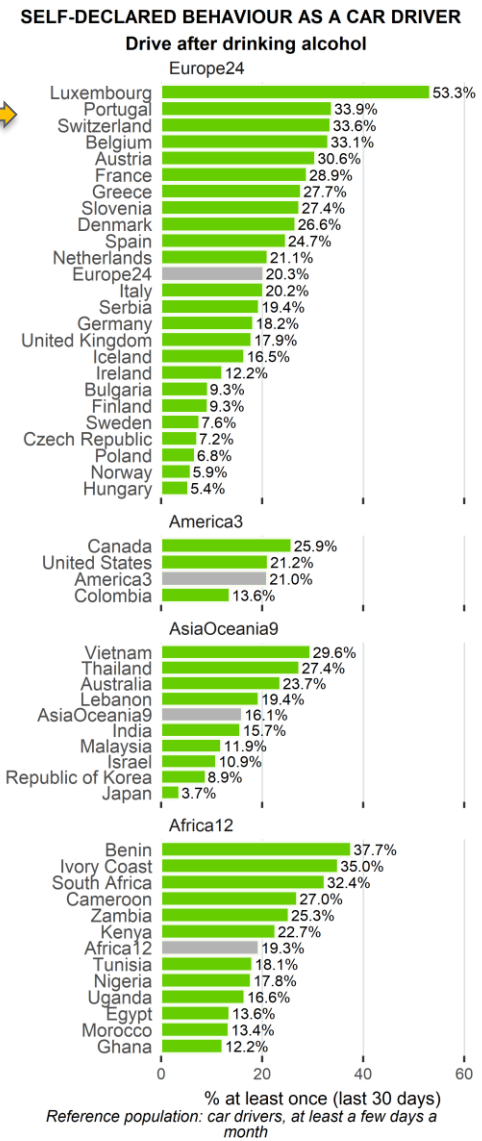


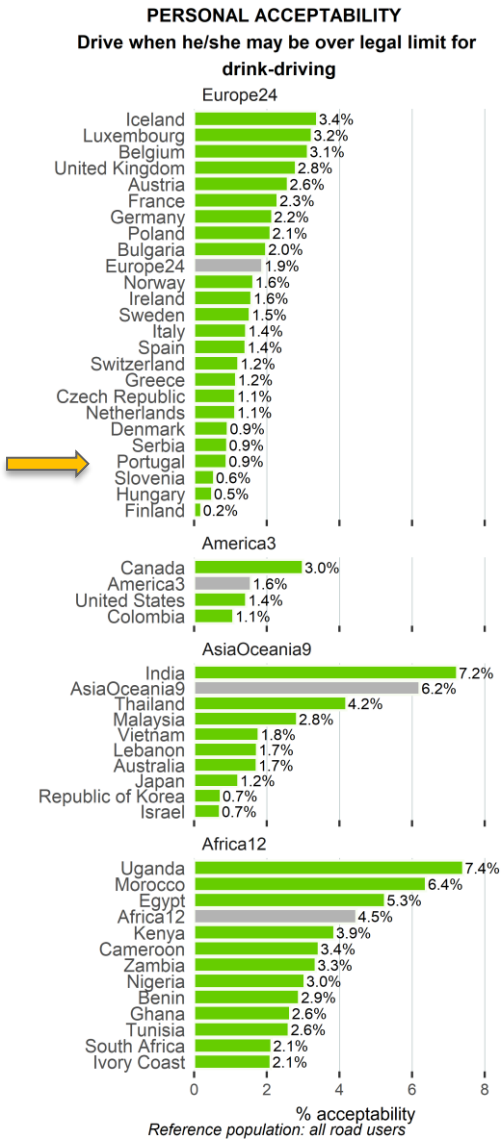


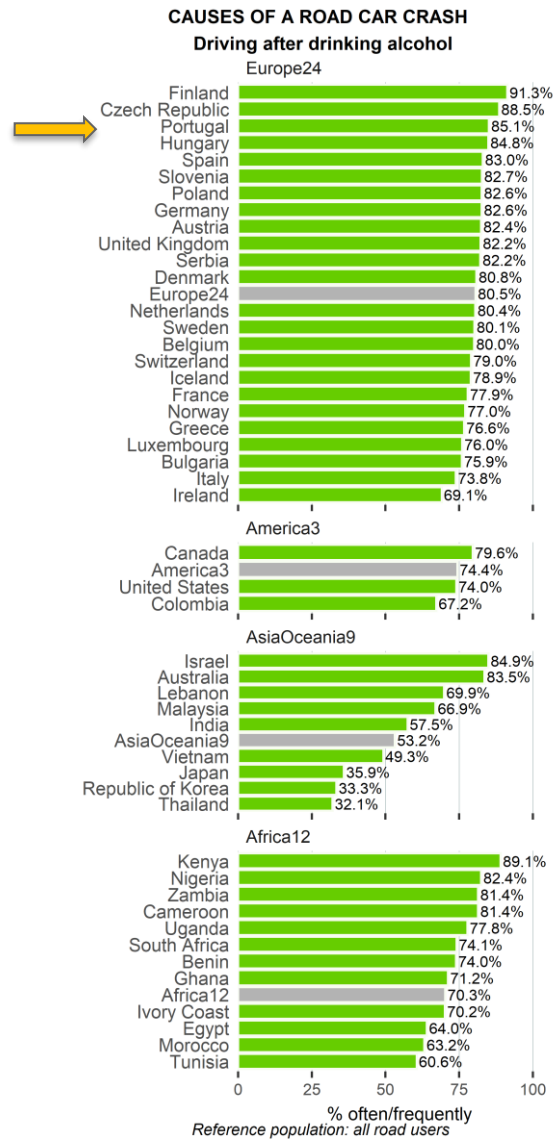


Self-declared behaviour, acceptability, and risk perception – ESRA2



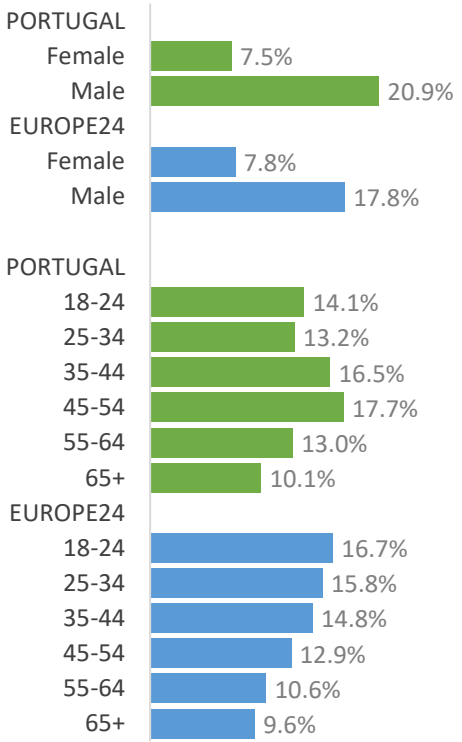






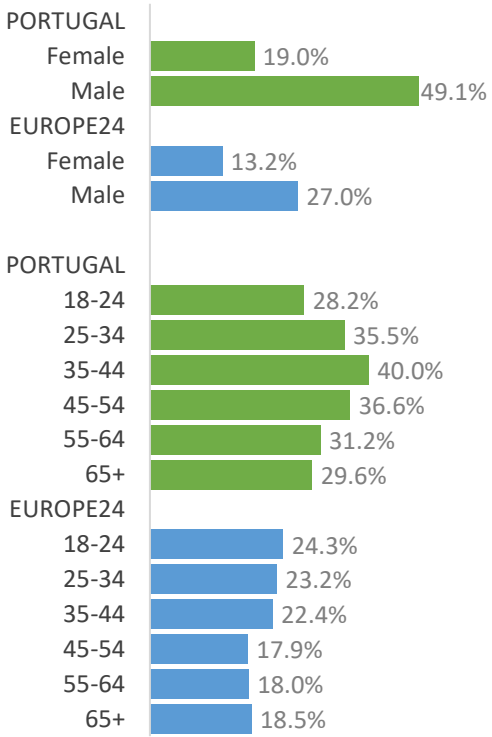
Self-declared behaviour, acceptability, and risk perception – ESRA2

SELF-DECLARED BEHAVIOUR AS A CAR DRIVER
Drive when you may have been over the legal limit for drinking and driving



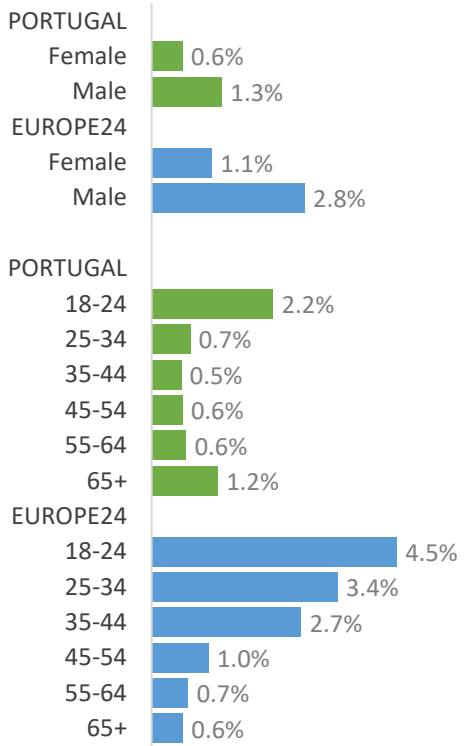
(% at least once in the past 30 days)

SELF-DECLARED BEHAVIOUR AS A CAR DRIVER
Drive a car after drinking alcohol



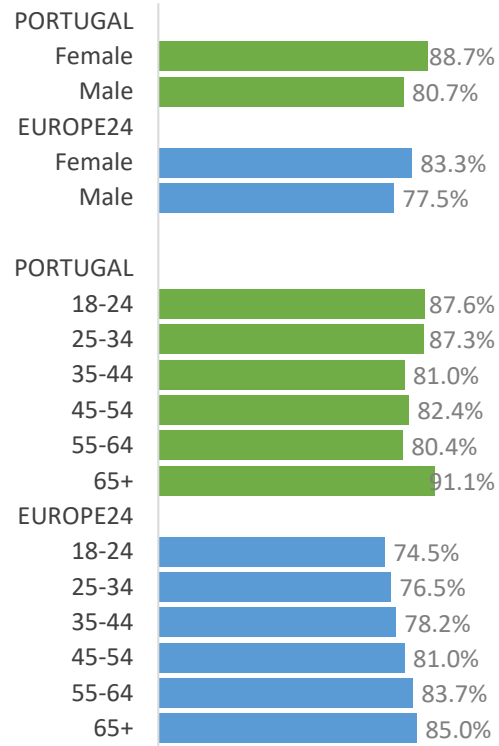
(% at least once in the past 30 days)

PERSONAL ACCEPTABILITY
Drive a car when he/she may be over the legal limit for drink-driving



(% acceptability)

CAUSES OF ROAD CAR CRASH
Driving after drinking alcohol

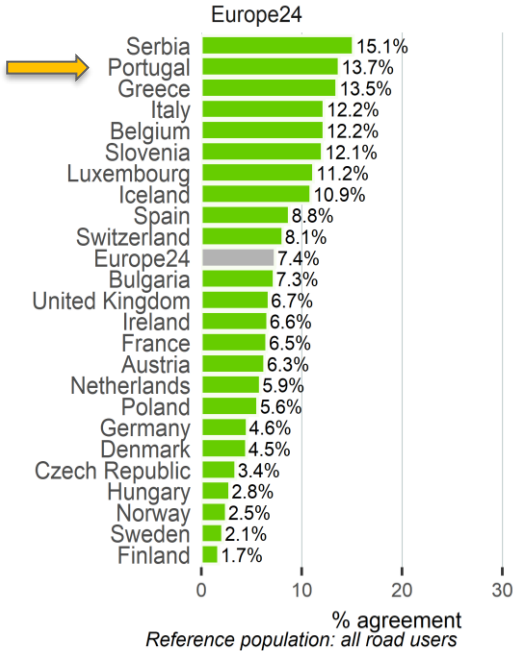


(% often/frequently)

Attitudes – ESRA2

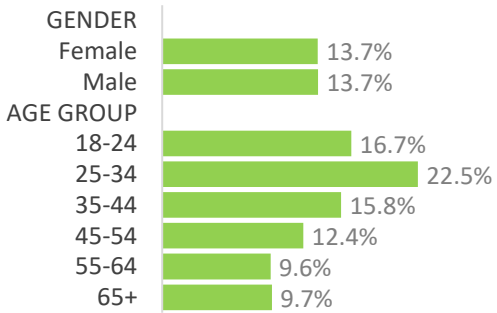
NORMATIVE BELIEVES AND SUBJECTIVE NORMS

Most of my friends would drive after having drunk alcohol



Reference population: all road users

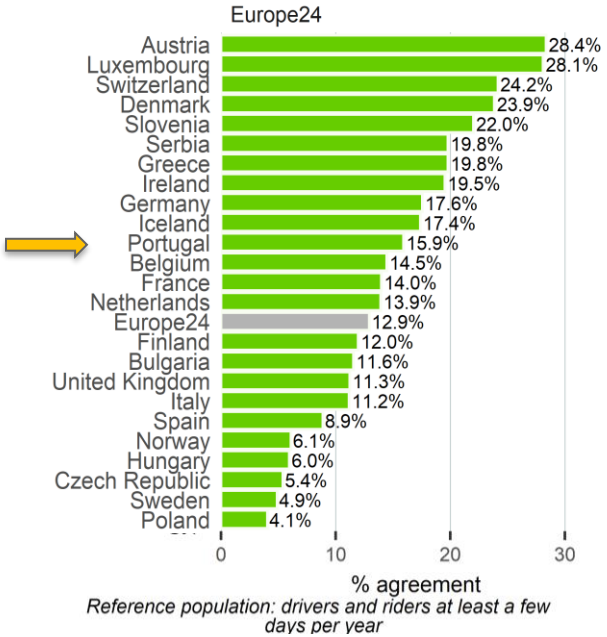
Portugal



PERCEIVED BEHAVIOUR CONTROL

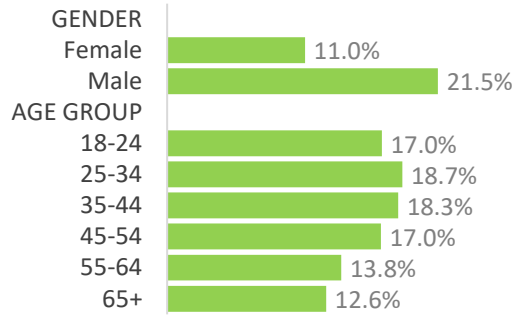
(SELF-EFFICACY)

I trust myself to drive after having a glass of alcohol



Reference population: drivers and riders at least a few days per year

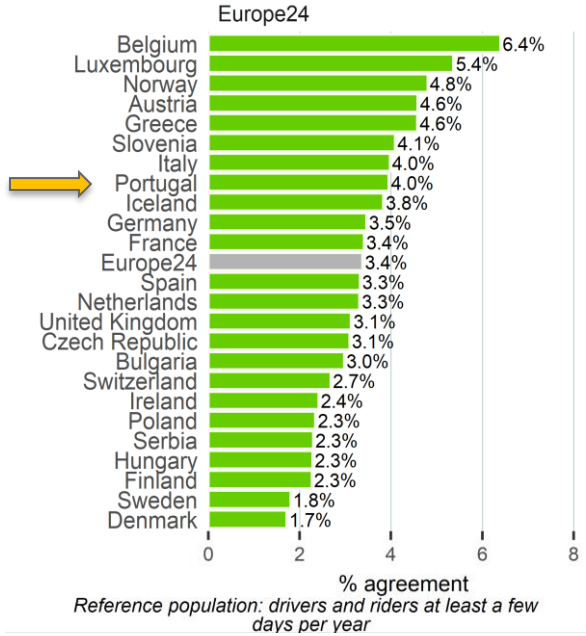
Portugal



PERCEIVED BEHAVIOUR CONTROL

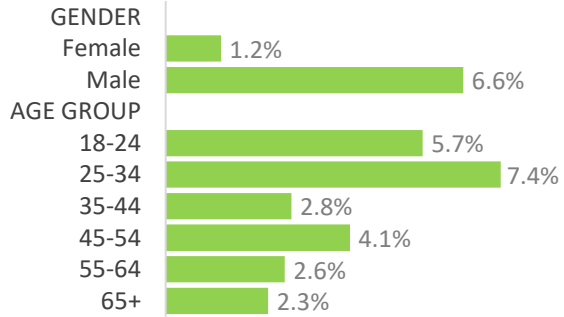
(SELF-EFFICACY)

I am able to drive after drinking a large amount of alcohol (e.g. half a liter of wine)



Reference population: drivers and riders at least a few days per year

Portugal

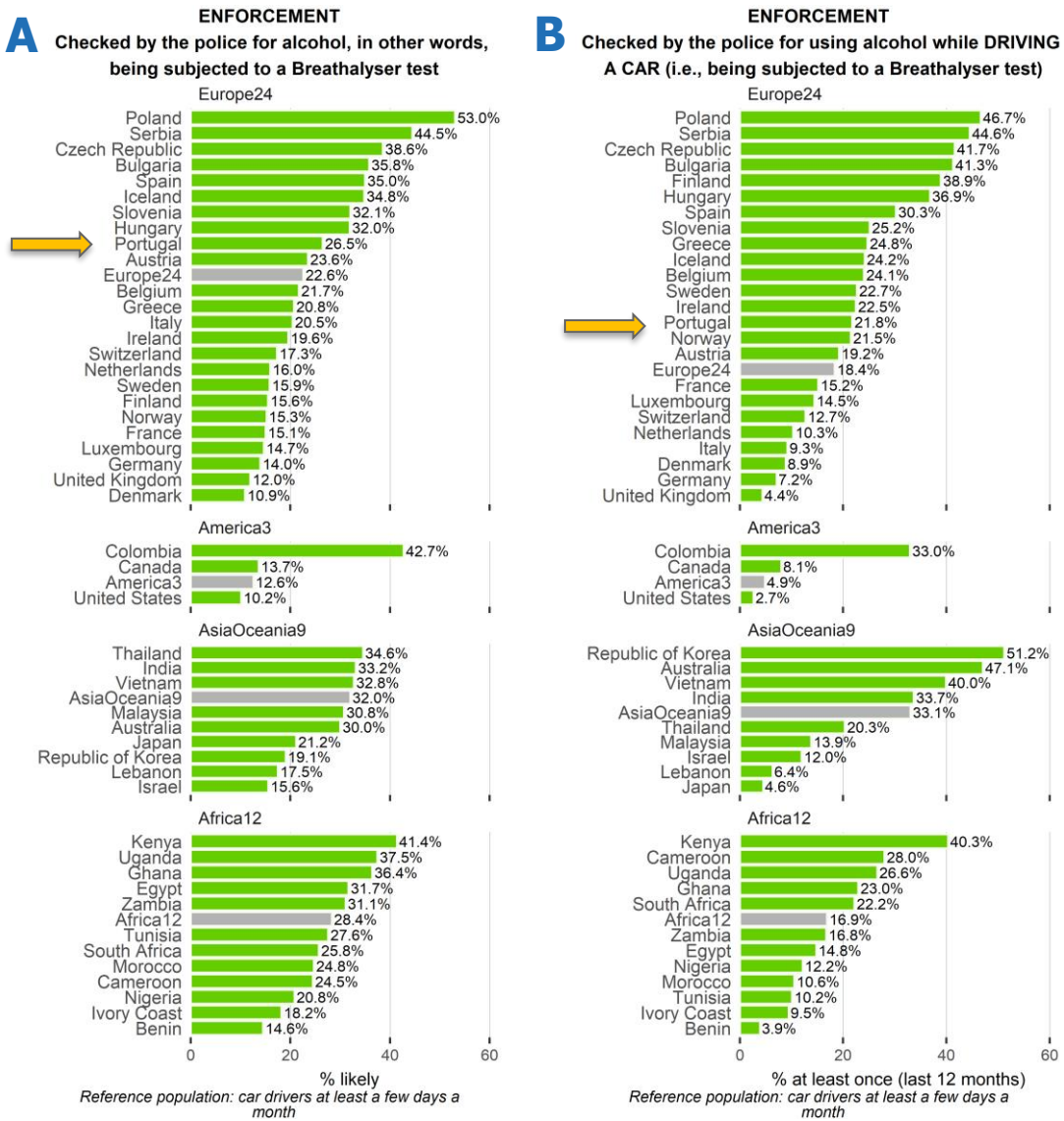


Support for policy measures, opinions on traffic rules and penalties – ESRA2

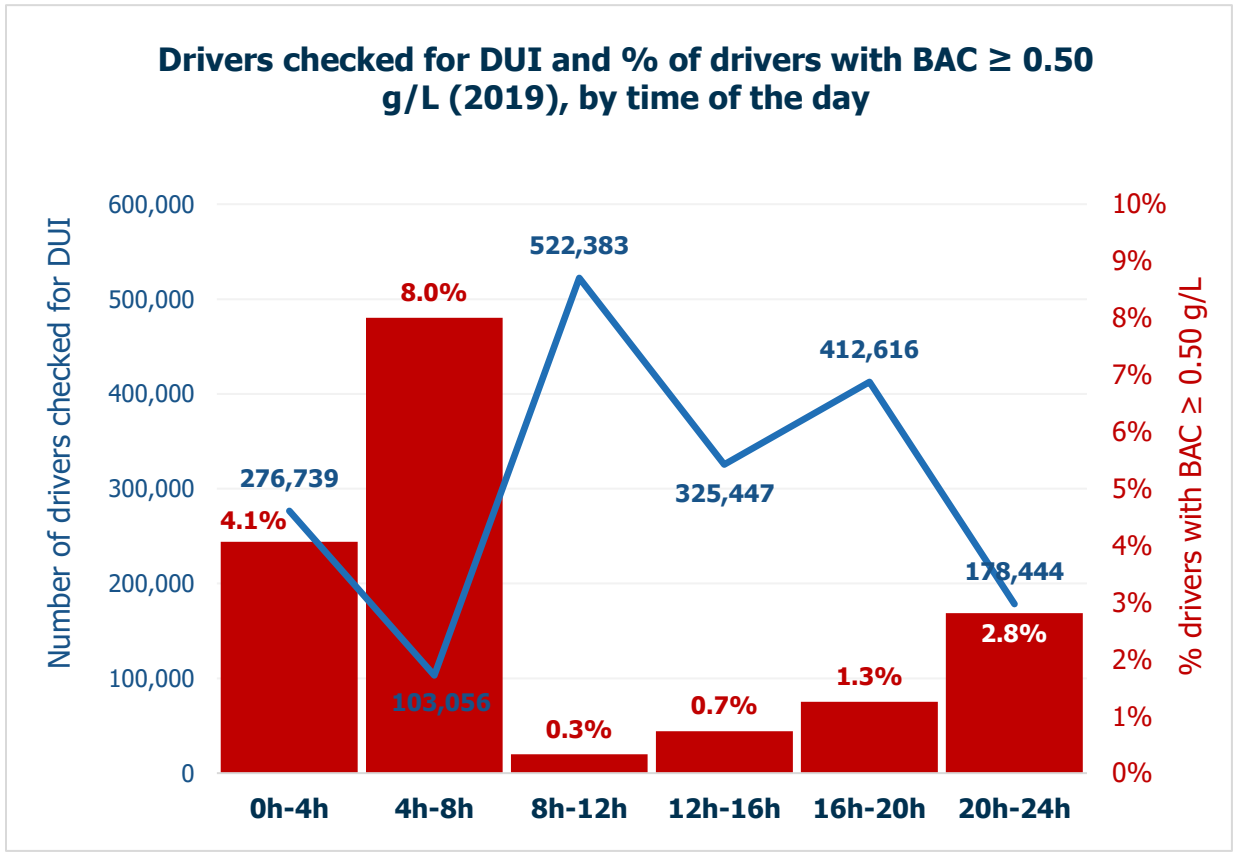
Support for policy measures	Portugal % of support
Install an alcohol “interlock” for drivers who have been caught drunk driving on more than one occasion (technology that won’t let the car start if the driver’s alcohol level is over the legal limit)	82.8%
Have zero tolerance for alcohol (0,0 ‰) for novice drivers (licence obtained less than 2 years)	79.0%
Have zero tolerance for alcohol (0,0 ‰) for all drivers	66.1%

Traffic rules and penalties for driving or riding under the influence of alcohol	Portugal % of agreement
The traffic rules should be stricter	67.6%
The traffic rules are not being checked sufficiently	74.6%
The penalties are too severe	26.8%

Enforcement – ESRA2



Enforcement - Portugal



A. 'On a typical journey, how likely is it that you (as a car driver) will be checked by the police for alcohol, in other words, being subjected to a Breathalyser test?'

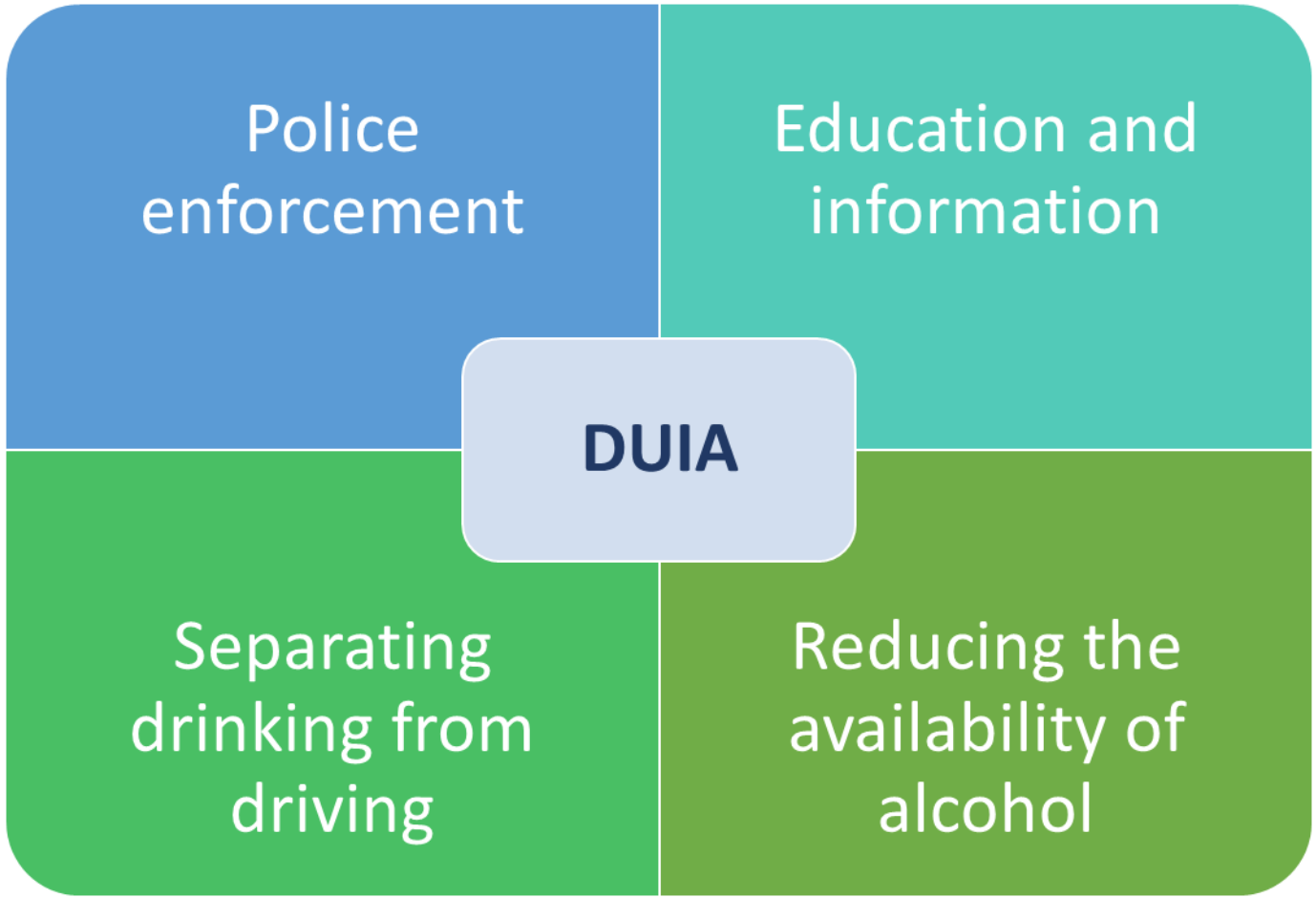
B. 'In the past 12 months, how many times have you been checked by the police for using alcohol while driving a car (i.e., being subjected to a Breathalyser test)?'

Key Performance Indicators (KPI) and policy measures – example on DUI in Portugal

Main conclusions

Crash statistics	Observed behaviours	Survey research - ESRA
Lack of data Higher percentages of deaths with drivers under the influence of alcohol (BAC ≥ 0.50 g/L) in: • Car drivers • Age 25y - 54y • Males • During the night	Higher prevalence of drivers under the influence of alcohol (BAC ≥ 0.50 g/L) in: • Younger drivers (<25y) • Males • During the night	• Higher % of self-declared behaviours in car drivers; • Low acceptability, high risk perception, but high % of self-declared behaviours; • Higher % of self-declared behaviours in males; • Stronger attitudes towards DUI in males and younger drivers; • Strong support for alcohol “interlock” and zero tolerance for alcohol (0,0 ‰); • High % of road users that think that rules should be stricter and are not being checked sufficiently.

Package of interrelated proven measures



Package of interrelated proven measures

- Improve data collection of alcohol-related road crashes (road deaths and injuries)
- Define an enforcement strategy of driving under the influence of alcohol, giving priority during the night, mainly weekends and defining quantitative targets.
- Coordinate enforcement activities with communication campaigns
- Improve the efficacy and efficiency of enforcement system mainly reducing traffic offenses prescription fee
- Design, implement and evaluate awareness campaigns following best practices of CAST project focused on targets most at risk and addressing specific variables capable of influencing attitudes and behaviours – lowering perceived behaviour control

Package of interrelated proven measures

- Develop and implement alcohol interlock programs – install ignition interlocks in vehicles as part of rehabilitation programmes for severe first time offenders, recidivist offenders and for those responsible for road crashes with illegal BAC levels.
- Mandatory the use of alcohol interlocks for professional drivers.
- Introduce specific content on driving under the influence of alcohol in driver's training, concerning crash risk, BAC impact on driving task, human body absorption and elimination of alcohol, etc.
- Develop raising awareness programs for secondary school and university students about DUI of alcohol (involving student organizations).
- Zero tolerance policy implementation on private and public organizations (ISO 39001 – Guidelines)

Measures implemented in Portugal

- BAC of 0.5g/l for all drivers; Maximum BAC of 0.2g/l for novice and "professional drivers)
- Penalty point system - sanctions : fine + loss of points (3,5 or 6)+ driving license withdrawal (1 or 2 months or prison sentence 1 year or 120 days fine)
- Rehabilitation of traffic offenders program
- Designated driver programme (occasionally)
- Roadside surveys of DUI
- Enforcement - random and systematic breath tests
- BAC levels measured - after collisions and all killed road users
- Road safety campaigns
- Limited selling points during the night
- 16 y.o. minimum drinking age

Crash data, self-declared and observed behaviours

Driving Under the Influence of Alcohol in Portugal

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Portuguese Road Safety Association (PRP)

PRP
Prevenção Rodoviária Portuguesa