# ESRA

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E-Survey of Road users' Attitudes

## Do we care about road safety?

Key findings from the ESRA1 project in 38 countries

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# Do we care about road safety?

## Key findings from the ESRA1 project in 38 countries

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# Table of contents

# List of Abbreviations

**Abbreviations**

| | |
|---|---|
| AROSO | Arab Road Safety Organisation |
| BAC | Blood Alcohol Concentration |
| BELDAM | Belgian Daily Mobility |
| DDI | Driver Distraction and Inattention conference |
| DUI | Driving under influence of a psychoactive substance (alcohol, drugs or medication) |
| EC | European Commission |
| ESRA | E-Survey of Road user´s Attitudes |
| ERSO | European Road Safety Observatory |
| ETSC | European Transport Safety Council |
| EU | European Union – but, in figures and tables of the present report 'EU' refers to the 20 countries participating in ESRA |
| FERSI | Forum of European Road Safety Research Institutes |
| IRTAD | International Traffic Safety Data and analysis Group |
| LOI | Length of Interview |
| OISEVI | Observatorio Iberoamericano de Seguridad Via |
| RS5C | Road Safety on Five Continents |
| RSS | Road Safety and Simulation conference |
| SARTRE | Social Attitudes to Road Traffic Risk in Europe |
| SDR | Socially Desirable Responding |
| TRA | Tansport Research Arena |
| TRB | Transportation Research Record |
| TSCI | Traffic Safety Culture Index |
| WHO | World Health Organisation |

**Country codes**

| | |
|---|---|
| AR | Argentina |
| AT | Austria |
| AU | Australia |
| BE | Belgium |
| BO | Bolivia |
| BR | Brazil |
| CA | Canada |
| CH | Switzerland |
| CL | Chile |
| CO | Colombia |
| CR | Costa Rica |
| CZ | Czech Republic |
| DE | Germany |
| DK | Denmark |
| EC | Ecuador |

| | |
|---|---|
| EL | Greece |
| ES | Spain |
| FI | Finland |
| FR | France |
| GT | Guatemala |
| HU | Hungary |
| IE | Ireland |
| IL | Israel |
| IT | Italy |
| KR | Republic of Korea |
| MX | Mexico |
| NL | Netherlands |
| NO | Norway |
| PE | Peru |
| PL | Poland |
| PT | Portugal |
| PY | Paraguay |
| SE | Sweden |
| SI | Slovenia |
| UK | United Kingdom |
| US | United States |
| UY | Uruguay |
| VE | Venezuela |

**Group codes**

| | |
|---|---|
| Europe | AT, BE, CH, DE, DK, EL, ES, FI, FR, HU, IE, IT, NL, PL, PT, SE, SI, UK, CZ, NO |
| LATAM | AR, BO, BR, CL, CO, CR, EC, GT, MX, PY, PE, UY, VE (members of OISEVI) |
| ESRA | All countries from ESRA1 survey 2015 – 2017 |

**ESRA weights**

| | |
|---|---|
| Individual country weight | Individual country weight based on gender and age |
| Europe group weight | Group weight based on Individual country weights and population size of each country in the set of European countries |
| LATAM group weight | Group weight based on Individual country weights and population size of each country in the set of Latin American countries |
| ESRA group weight | Group weight based on Individual country weights and population size of each country in the set of all participating countries |

# Summary


**Objective and methodology**

The ESRA project (E-Survey of Road users' Attitudes) is a joint initiative of research organisations and road safety institutes in 38 countries. The objective is to collect comparable (inter)national data on road users' opinions, attitudes, and behaviour with respect to road traffic risks. The project was funded by the partners' own resources.

The first ESRA1 survey was conducted online using representative samples (at least N=1,000) of the national adult populations in 38 countries. A common questionnaire was developed and translated into 33 different country-language versions. The survey covered a range of subjects, including the attitudes towards unsafe traffic behaviour, self-declared (unsafe) behaviour in traffic, and support for road safety policy measures. The field work was carried out in three waves: (1) June/July 2015, (2) November 2016, and (3) July/August 2017. In total, ESRA1 covers almost 40,000 respondents from 38 countries across the world. Hence, the ESRA1 survey produced a very rich dataset. An overview of the project and the results are available on: www.esranet.eu.

This report presents the key results of the ESRA1 survey in 38 countries (2015-2017). The themes covered are: 'road fatailties and concerns about road safety', 'modes of tansport', 'self-declared behaviour', 'acceptability of unsafe traffic behaviour', 'attitudes towards road safety', 'subjective safety', 'enforcement', and 'support for policy measures'. The report highlights group and national differences; it provides insights into different road safety topics, such as speeding, driving under influence of alcohol or drugs/medication, distraction and fatigue, and protective system. Special attention is given to the most recent data from Latin American countries.

**Key results – Sixteen highlights from the first ESRA survey**

**Sixteen highlights of the ESRA1 survey**

**Concerns about road safety**

1. Latin American road users are more concerned about road accidents than European road users, which mirrors the higher fatality rates in these countries compared to those in Europe.

**Modes of transport**

2. The transport modes used most often in the countries participating in ESRA1 are 'walking', 'car as driver', 'car as passenger', and 'public transport'.
3. Cycling is less practiced in Latin American compared to Europe. Only 15% of the Latin American road users state that this is one of their 'top 3' transport modes, while the rate is 22% in Europe. The Netherlands has 52% for this mode – the highest among the 38 countries.

**Self-declared traffic behaviour**

4. Speeding is a major problem in all ESRA participating countries. Speeding on highways for example, is reported by 68% of the drivers in the ESRA survey (Europe mean: 73%; LATAM mean: 56%).
5. The unsafe traffic behaviour that is reported most often in Latin American countries is being too tired to drive. 67% of the Latin American drivers report that they have driven a car while realizing that they were actually too tired to drive during the last year (Europe mean: 60%; ESRA mean 62%).

6. The biggest difference between Latin American and European respondents is observed for wearing a seat belt as back seat passenger. Only 39% of the Latin American road users always wear a seat belt as passengers in the back of the car, compared to 62% in Europe (ESRA mean: 52%).

**Acceptability of unsafe traffic behaviour**

7. The (un)acceptability of some unsafe traffic behaviours among Latin American road users is very similar to that of European and other ESRA countries' road users, except for speeding.
8. The biggest difference between Latin American and European respondents is observed for the acceptability of speeding offences. Only 19% of the Latin American respondents think that speeding on a motorway is acceptable, for European respondents the figure is 33%. This rate for Europe is in line with the higher prevalence of speeding offences on motorways among European drivers compared to Latin American drivers.

**Subjective safety**

9. Road users in Latin American countries feel less safe in traffic than European road users. Danish and Finnish people feel the safest and Venezuelans the least safe.
10. In Europe, using public transport is considered to be a very safe transport mode. But more than half of the Latin American respondents think that using public transport is rather unsafe.

**Enforcement**

11. Almost 70% of all respondents feel that traffic rules are not being enforced sufficiently for alcohol and drugs.
12. Almost 20% of all road users feel that penalties for alcohol and drugs are too severe.
13. The level of enforcement with respect to drink driving varies considerably by country. Only 2% of the Danish drivers report alcohol checks on a typical day, compared to 44% of the Polish drivers.

**Support for policy measures**

14. Around 80% of the ESRA respondents support a zero tolerance approach to drink-driving for novice drivers and the installation of an alcohol interlock for recidivists.
15. Respondents in Latin American countries show in general (across all topics) a higher support for road safety policy measures than those in European countries.
16. In the Netherlands, the country with the highest self-declared rate of cycling, the support for a law requiring cyclists to wear a helmet is low. Only 19% of the Dutch respondents support this measure, while 69% of the overall ESRA population is in favour of it (Europe mean: 59%; LATAM mean 84%).

**Conclusions and key recommendations for future development of ESRA**

The ESRA project has demonstrated the feasibility of establishing a set of reliable road safety performance indicators that are comparable across countries. It is currently envisaged to conduct the second version of ESRA in 2018 – and then repeat the survey on a triennial basis. This will lead to a unique set of road safety performance indicators for an increasing number of countries across the world.

In order to achieve this, it is recommended to maintain the essence of the current approach for the next editions of ESRA. Yet, in particular the expected expansion towards other countries make it clear that a reflection is needed about the future development of ESRA. The following recommendations with respect to future developments emerge from the analyses in this report:

1. Make the ESRA data available to regional, national, and international road safety observatories, to ensure that road safety performance indicators produced by ESRA are used to inform and support policy making at regional, national, and international levels.
2. Use the ESRA data as a base for road safety performance indicators that can be used at international level.
3. Contribute to the definition of medium and long-term targets for these performance indicators.

It is also recognised that there is a growing number of low and middle-income countries – as well as regions and cities – that could also benefit from joining ESRA. Such extensions will require the ESRA network to address three important questions: (1) the feasibility to use internet access panels in certain countries to obtain a representative sample of the adult population and the need or possibility for developing alternative approaches to data gathering; (2) the full applicability of the current questions in the context of low and middle income countries; and (3) the feasibility to include some questions that differ across countries, while maintaining the underlying database structure (provides the national partner the opportunity to also include one or two national specific questions).

# 1 Background

## 1.1 Monitoring road safety attitudes and performance

Trends in road safety performance and the success of policy measures can be monitored using road safety indicators. Important data sources to assess the road safety situation are accident statistics, road side surveys, and questionnaire surveys. The last source, in particular if they are conducted online, is a relatively inexpensive way to obtain indicators on safety practice and road users' behaviour. A main advantage of questionnaire surveys is that they can provide insights into socio-cognitive determinants of behaviour: attitudes, perceived social norm, risk perception, or existing habits. Socio-cognitive factors can help to understand the underlying motivations of certain behaviour (e.g. Ajzen, 1991; Rosenstock, 1974; Rogers, 1975; Vanlaar and Yannis, 2006). It is tempting to use such indicators based on questionnaire surveys for benchmarking purposes. However, the results of national surveys are seldom comparable across countries because of differences in aims, scope, methodology, questions used, or sample population being surveyed.

Therefore, the European Commission initiated the European project SARTRE (Social Attitudes to Road Traffic Risk in Europe; homepage: www.attitudes-roadsafety.eu/) in 1991. A common questionnaire and study design was developed, and face-to-face interviews were conducted among a representative sample of the national adult population. Four editions of the SARTRE survey were completed (1991, 1996, 2002, 2010). In the first three editions of the SARTE project, surveys were directed only to car drivers. In the fourth edition, the target group was extended to 'powered two-wheelers', pedestrians, cyclists, and users of public transport (Cestac and Delhomme, 2012). This SARTRE4 survey was the last large-scale measurement of social attitudes towards road traffic risk in Europe before ESRA1. Since 2010, there have been road safety campaigns to improve safety situation by the European Union and by member countries, but not updated studies to assess the evolution of road users' attitudes, behaviours, and perceptions. Hence, in 2015, Vias institute (formerly the Belgian Road Safety Institute) launched the ESRA (E-Survey of Road users' Attitudes) initiative to fill this knowledge gap.

## 1.2 The ESRA initiative

**The ESRA network**

When Vias institute (formerly called the Belgian Road Safety Institute) launched the ESRA initiative in 2015 (E-Survey of Road users' Attitudes; homepage: www.esranet.eu), the initial aim was to develop a cost-effective method for gathering reliable information on road users' attitudes and performance in a range of European countries. An important prerequisite was that the data collected could be a base for road safety performance indicators that are fully comparable across countries. Since the deadlines were tight, it was initially expected that about ten countries might join the initiative. From the outset, there was the expectation that ESRA might be of sufficient interest to attract additional countries at a later stage. In the very first wave of ESRA1, seventeen European countries joined the initiative, and the interest rose futher. Very quickly two additional waves were launched. Within only two and a half years, ESRA grew to a global survey network covering 38 countries across 5 continents (Figure 1).

**Objectives**

ESRA's aim is to provide scientific support to road safety policy making on national and international levels. By using a uniform sampling method and an identical questionnaire, comparability of results across all participating countries is assured.

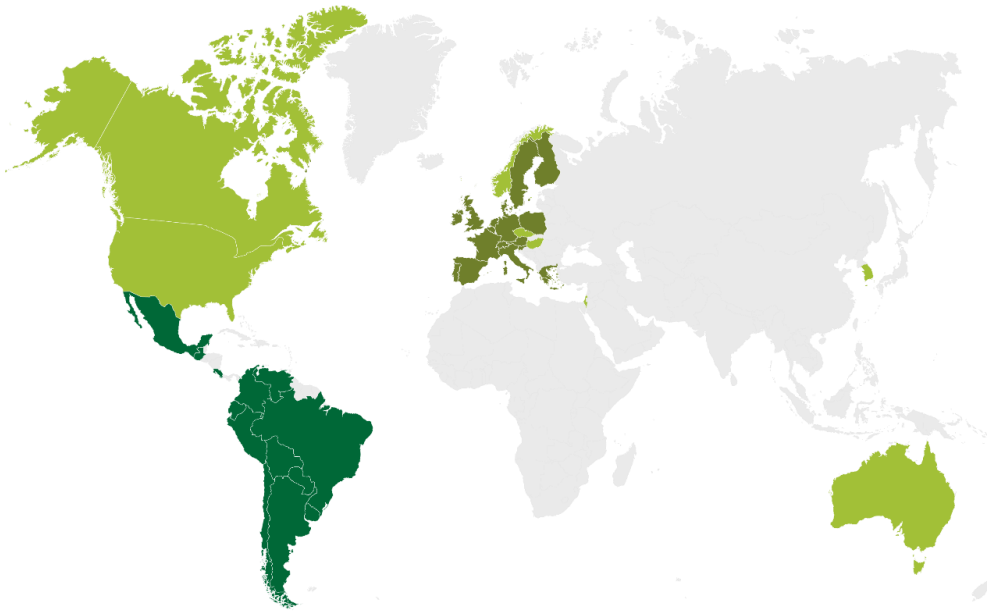

Figure 1: Geographical coverage and evolution of the ESRA1 survey

*Note: Olive colored countries participated in wave 1 – 2015; light green colored countries in wave 2 – 2016; and dark green countries in wave 3 – 2017.*

**Methodology – in a nutshell**

Following a careful consideration of different options, the ESRA consortium opted for a web survey using internet access panels. The first ESRA survey (ESRA1) was conducted online using representative samples (N=1,000) of the national adult populations in 38 countries (online internet access panel). A common questionnaire was developed and translated into 33 national language versions. The questionnaire covers four main road safety topics (speeding, driving under influence, distraction/fatigue, and protective system) over different themes, which are shown in Table 1 (33 questions; over 200 variables per respondent). The field work was carried out in three waves: (1) June/July 2015, (2) November 2016, and (3) July/August 2017. In total, the ESRA1 database includes almost 40,000 respondents from 38 countries across the world.

**Publications**

The results of ESRA1 are summarized in three key reports (one per wave), six thematic reports (speeding; driving under the influence of alcohol and drugs; distraction and fatigue; seat belt and child restraint systems; subjective safety and risk perception; enforcement and support for road safety policy measures), and 25 country fact sheets. Furthermore, the results have been presented in scientific articles and national reports, and are presented at international conferences, including: TRA, TRB, DDI, RSS, AustralAsian conference, AROSO conference, IRTAD conference, ETSC conference, RS5C etc. An overview of the ESRA1 publications can be found on page 50.

**Future plans**

The intention is to repeat this survey on a triennial basis, retaining a core set of questions in every survey allowing the development of time series of road safety performance indicators. The next edition (ESRA2) will be launched in 2018.

# 2 Methodology

## 2.1 Data collection and sample description

### Online panel survey

Given the focus of the ESRA project on road users' perceptions and attitudes, the ESRA team opted for a self-administered questionnaire. More specifically, ESRA1 is based on a web survey using access panels. Three market research agencies (iVOX, GfK, Punto de Fuga)[1] organised the field work under the supervision of the Vias institute. The approach adopted has some advantages compared to other survey modes, especially given the international context of the study. These advantages are: (1) self-administered web surveys are less prone to social desirability in responses compared to interviewer-administered surveys, and (2) they also have some practical advantages such as the length of the survey, timing, and costs (De Leeuw, et al., 2008; Baker, et al., 2010; Goldenbeld and de Craen, 2013). It is recognized, however, that internet penetration varies between countries. Consequently, coverage and sampling may be sub-optimal (the internet penetration per country can be seen in Appendix 1). In brief, having a uniform sampling method, an identical questionnaire, and a uniform programming of this questionnaire allows ESRA1 results to be fully comparable among the participating countries.

### Scope and questionnaire

In view of comparability, not just between the countries, but also with surveys that have been conducted in the past, almost all questions of the ESRA1 survey were based on or taken directly from validated questionnaires from Belgium (Meesmann and Schoeters, 2017; Belgian Road Safety Institute, 2015), other European countries (Cestac and Delhomme, 2012), and the US (AAA Foundation for Traffic Safety, 2016). The 222 (sub-)questions in the ESRA1 survey covered four main topics (speeding, driving under influence, distraction/fatigue, and protective system) across different themes, which are listed in Table 1. The English version of the questionnaire is available in Appendix 3. Given that the estimated maximum duration for completing the online survey was set to 20 minutes, not all themes could be covered in the same depth. The results can be linked to the respondent's sociodemographic characteristics: gender, age, or educational level.

Table 1: Themes covered within the ESRA1 questionnaire

| Theme | Number of questions | Number of sub-questions and original variables |
|---|---|---|
| Attitudes towards road safety | 3 | 64 |
| Behaviour of other road users | 2 | 18 |
| Subjective safety and risk perception | 2 | 28 |
| Involvement in road crashes | 2 | 15 |
| Enforcement | 6 | 11 |
| Self-declared (unsafe) behaviour in traffic | 2 | 31 |
| Support for policy measures | 2 | 23 |
| Use of different transport modes | 6 | 20 |
| Other items (e.g. socio-demographic information) | 7 | 12 |
| Total | 33 | 222 |

Vias institsute developed a first version of the ESRA1 questionnaire in UK English. This master version was used by the project partners to translate to their national language(s). In total, the ESRA1

[1] *The subcontracted national panel providers can be found in Appendix 1.*

questionnaire was conducted in 33 different national language versions (see Table 2) and programmed in four different characters (Latin, Greek, Hebrew, Korean).

Table 2: National language versions in which ESRA1 was conducted

| Languages | National language versions |
|---|---|
| Czech | Czech (CZ) |
| Danish | Danish (DK) |
| Dutch | Dutch (BE), Dutch (NL) |
| English | English (AU), English (CA), English (IE), English (UK), English (US) |
| Finnish | Finnish (FI) |
| French | French (BE), French (CA), French (CH), French (FR) |
| German | Geman (AT), German (CH), German (DE) |
| Greek | Greek (EL) |
| Hungarian | Hungarian (HU) |
| Hebrew | Hebrew (IL) |
| Italian | Italian (CH), Italian (IT) |
| Korean | Korean (KR) |
| Norwegen | Norwegen (NO) |
| Polish | Polish (PL) |
| Portuguese | Portuguese (BR), Portuguese (PT) |
| Slovenian | Slovenian (SI) |
| Spanish | Spanish (ES), Spanish (MX), Spanish (South America) |
| Swedish | Swedish (SE) |

**Participants and sample description**

Figure 1 shows the geographic coverage of the survey. In each country, the ESRA respondents should be a representative sample of the national adult population (≥18y), hence including all types of road users: car drivers, motorcyclists, cyclists, and pedestrians. The targeted number of respondents was 1,000 in each country. The market research agencies used quota for age and gender (interlaced), and monitored a geographical distribution. The total sample size consists of 38,738 road users from 38 countries. Table 3 shows the distribution of the sample by country, gender, and age group.

Table 3: Specifications of the sample by country (unweighted sample)

| Country | Sample size | Gender | | Age Group | | |
|---|---|---|---|---|---|---|
| | | Male | Female | 18-34 | 35-54 | 55+ |
| Argentina | 999 | 50% | 50% | 26% | 43% | 31% |
| Australia | 1,002 | 49% | 51% | 25% | 39% | 36% |
| Austria | 1,019 | 52% | 48% | 27% | 39% | 34% |
| Belgium | 1,000 | 52% | 48% | 26% | 38% | 36% |
| Bolivia | 522 | 55% | 45% | 19% | 36% | 44% |
| Brazil | 987 | 43% | 57% | 26% | 55% | 18% |
| Canada | 1,059 | 49% | 51% | 40% | 48% | 12% |
| Chile | 1,004 | 53% | 47% | 25% | 34% | 41% |
| Colombia | 998 | 49% | 51% | 30% | 41% | 29% |
| Costa Rica | 1,025 | 52% | 48% | 33% | 45% | 22% |
| Czech Republic | 1,164 | 56% | 44% | 41% | 40% | 19% |
| Denmark | 1,077 | 46% | 54% | 32% | 44% | 24% |
| Ecuador | 1,001 | 52% | 48% | 38% | 38% | 24% |
| Finland | 1,016 | 51% | 49% | 31% | 54% | 14% |
| France | 1,000 | 44% | 56% | 25% | 34% | 40% |
| Germany | 999 | 51% | 49% | 33% | 41% | 26% |
| Greece | 1,113 | 49% | 51% | 30% | 42% | 27% |
| Guatemala | 1,042 | 48% | 52% | 27% | 42% | 32% |
| Hungary | 1,255 | 48% | 52% | 29% | 39% | 32% |
| Ireland | 999 | 47% | 53% | 19% | 44% | 38% |
| Israel | 1,316 | 52% | 48% | 37% | 42% | 21% |
| Italy | 837 | 52% | 48% | 34% | 46% | 21% |
| Mexico | 993 | 48% | 52% | 30% | 40% | 30% |
| Netherlands | 1,106 | 49% | 51% | 47% | 39% | 14% |
| Norway | 1,004 | 47% | 53% | 32% | 33% | 35% |
| Paraguay | 532 | 55% | 45% | 33% | 35% | 32% |
| Peru | 998 | 50% | 50% | 43% | 39% | 19% |
| Poland | 1,085 | 56% | 44% | 53% | 38% | 9% |
| Portugal | 1,028 | 50% | 50% | 44% | 40% | 16% |
| Republic of Korea | 1,007 | 50% | 50% | 39% | 40% | 21% |
| Slovenia | 1,002 | 48% | 52% | 47% | 39% | 15% |
| Spain | 1,021 | 50% | 50% | 44% | 44% | 12% |
| Sweden | 1,297 | 50% | 50% | 45% | 38% | 17% |
| Switzerland | 1,000 | 52% | 48% | 57% | 34% | 8% |
| United Kingdom | 1,162 | 62% | 38% | 57% | 36% | 7% |
| United States | 1,075 | 48% | 52% | 45% | 36% | 19% |
| Uruguay | 997 | 48% | 52% | 39% | 39% | 22% |
| Venezuela | 997 | 49% | 51% | 46% | 37% | 17% |
| TOTAL | 38,738 | | | | | |

*Note: Italy used different sampling methods. Only online sampling has been taken into account in this overview.*

**Data collection**

The field work was carried out in three waves: (1) June/July 2015, (2) November 2016, and (3) July/August 2017. An overview on the specifications of the field work in each country can be found in Appendix 1.

## 2.2 Data processing and reporting

The cleaned data files of the market research companies were merged together into one, including the answers of all repsondents in 38 countries. The statistical packages used were SPSS (IBM SPSS Statistics for Windows, Version 23.0) and R (R core team, 2015 and 2017).

**Dichotomisation of the data**

Inspired by the former SARTRE project and national attitude surveys, the original data were dichotomised. More efficient estimates can be obtained by combining outcomes of variables into binary variables. The dichotomisation was done centrally and used in all ESRA1 reports. The dichotomizations and reference categories for each question are indicated in the questionnaire in Appendix 3.

**Groups**

Three groups were defined to compare the results on group level:

- Europe: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, and United Kingdom
- LATAM[2]: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Mexico, Paraguay, Peru, Uruguay, and Venezuela.
- ESRA: All countries from ESRA survey 2015 – 2017 (those from above plus: Australia, Canada, Israel, Republic of Korea, and the United States).

**Weighting of the data**

Depending on the level of analysis, two different weights were applied: (1) individual country weights, (2) group weights. The individual country weights took into account small corrections with respect to national representativeness of the sample based on gender and three age groups: 18-34; 35-54y; ≥55y (interlaced). The weighting was based on population statistics from United Nations data (2017). Additionally, the group weights also took into account the population size of each country in the total set of included countries in this group.

**Reporting**

The objective of this report is to give an overview of the key results gathered in all three waves (2015-2017) of the first ESRA survey. It includes the results of all 38 countries which participated in ESRA1. Special attention is given to the most recent data from Latin American countries. The report highlights group and national differences and provides insights into different road safety topics, such as speeding, driving under influence of alcohol or drugs/medication, distraction/fatigue, and protective system. The themes covered in this report are: 'road fatalities and concern about road safety', 'modes of transport', 'self-declared traffic behaviour', 'acceptability of unsafe traffic behaviour', 'attitudes towards road

[2] *Members of OISEVI.*

safety', 'subjective safety', 'enforcement', and 'support for policy measures'. The national and group results, of all selected variables within this report, can be found in Appendix 2.

## 2.3 Costs and external funding

The costs for the ESRA project were kept as low as possible. The main priniciples to achieve this were: (1) using online panel services; and (2) sharing the analysis work amongst the ESRA partner organisations.

The financial resources for the survey costs and the staffing resources for the analyses were secured by the ESRA partners themselves, in general from national sources (except for Latin America countries, where FIA provided a grant).

In most countries, the cost for gathering the data was in the range between 4,000 and 8,000 € (for 1000 respondents). Overall, the out-of-pocket costs for creating the ESRA1 database (38 countries) amounted to around 200,000 €.

The ESRA1 questionnaire was initially developed by Vias institute, building on elements of existing questionnaires. National partners were responsible for the translations of the master version into their national language version(s). Furthermore, they were responsible for the validations of the national results in the country fact sheets. The analyses of the common data were a joint effort of the seven members of the ESRA1 core group (Vias institute, KFV, PRP, CTL, NTUA, ITS, BfU), who spent over 30 person months on analysing and producing this first series of reports in 2016. In 2017, the analyses and reporting activities were carried out by Vias institute and sponsored by FiA.

# 3 Key results

Almost 40,000 completed questionnaires from 38 countries make up the ESRA1 database; at a finer scale, there are more than 200 variables per respondent. The database consists of data collected through three iterations of the ESRA1 survey, carried out in 2015, 2016, and 2017. The sheer size and numerous themes of this database make it impossible to perform an exhaustive analysis in a single report. In this report, a selection was made of a number of themes that seemed most useful for ongoing road safety research and policies: (1) modes of transport, (2) self-declared traffic behaviour, (3) acceptability of unsafe traffic behaviour, (4) attitudes towards road safety, (5) subjective safety, (6) enforcement, and (7) support for road safety policy measures. Within these themes, the report includes cross topic comparisons between speed, protective system, distraction/fatigue, and DUI (alcohol and/or drugs). The ESRA1 survey mainly addresses car drivers. Additional results on motorcyclists, cyclists, and pedestrians are included in this chapter, whenever results are available.

For the ESRA1 survey, ESRA is defined as a group, consisting of all 38 participating countries. From this ESRA group, two subsets – LATAM and Europe – are derived: LATAM is made up of 13 Latin American countries (OISEVI members); Europe is composed of 20 European countries (ERSO members). The current report will highlight the most recent data from the LATAM countries, and compare them with the overall ESRA picture. More results on European countries, gender, and age as well as in-depth analysis on specific topics can be found in the ESRA1 2015 main report (Torfs, et al., 2016) and in the six thematic reports – Speeding; Driving under the influence of alcohol and drugs; Distraction and fatigue; Seat belt and child restraint systems; Subjective safety and risk perception; Enforcement and support for road safety policy measures.

## 3.1 Road fatality rates and concern about road safety, a snapshot

Before diving into the results of the ESRA1 survey, the link between road fatality rate (fatalities per 100,000 people) and the feeling of concern (in percentage) about road accidents will be examined briefly. To gain an insight into this relationship, data from WHO road fatality rates and ESRA1 respondents are used. This relation qualifies an aspect of the road safety situation and the perception of this issue; it is one of the bases for this survey.

The relationship between the parameters – road fatality rates and concern about road accidents – is drawn in Figure 2, using the 'loess smoothing' method. The blue line represents the line of best fit, while the gray area corresponds to a 95% confidence interval around the smooth line. The correlation coefficient ($R^2$) of 0.55 indicates a moderately strong relationship between road fatality rates and the extent of concern about road accidents among respondents of the ESRA1 participating countries. This coefficient implies that the fatality ratio of a country is likely to affect the percentages of the feeling of concern for road accidents of that country.

Most notable is the 13 Latin American countries – 12 are within the gray area; the only exception is Brazil (BR). Ecuador (EC), Bolivia (BO), Argentina (AR), Mexico (MX), Chile (CL), Paraguay (PY), Guatemala (GT), Colombia (CO), Peru (PE), and Costa Rica (CR) are inside the gray area. The fatality ratios per 100, 000 people for these countries hover around 12 to 22, and the percentages of concern are around 80 to 90. It is 95% certain that the results of these countries fall within the true mean. An inference from these results is that Latin American countries with high fatality ratios are more likely to have high percentages of concern for road accidents. However, Venezuela stands apart from its geographic neighbours, even though it is within the gray area. There are a few possible reasons for this difference. Its traffic fatality rate is old (2008) compared to the other Latin American countries; the economic, political, and social unrest of the last decade could be impacting this ratio.

Brazil (BR) is in the upper bound of the relationship, but it is outside of the gray area. The result does not indicate a 95% certainty.

Another interesting manifestation appears on the other end of this relation with Israel (IL), Denmark (DK), and Sweden (SE). Denmark and Sweden are below the fitted line and outside the gray area, and Israel is above blue line and outside the gray area. They are outliers.

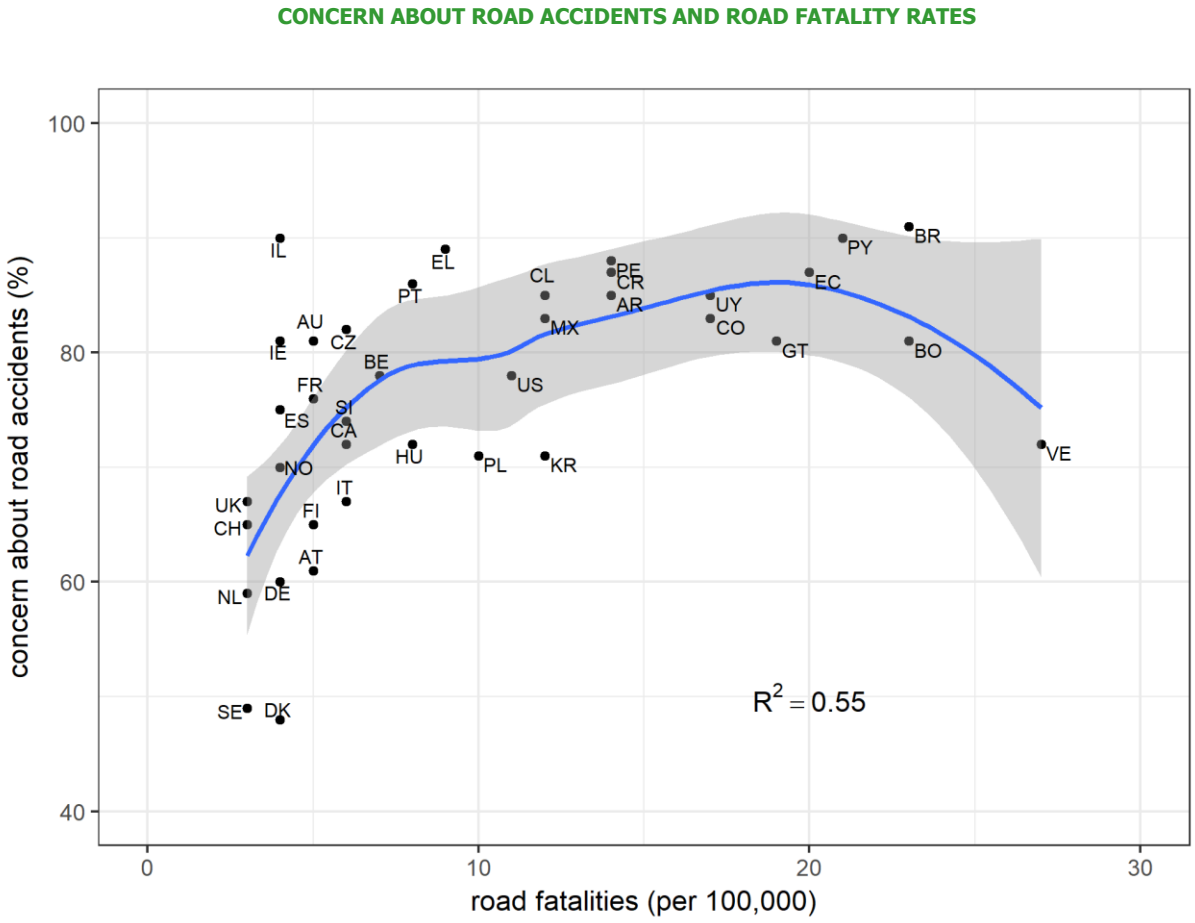


Figure 2: Road fatality rates (WHO, 2008, 2015) versus concern about road accidents (ESRA, 2015-2017) per country

*Notes:*
*(1) Data of road fatality for Venezuela are from 2008, while those of other countries are from 2015.*
*(2) The percentage of concern by ESRA1 participants is based on scores 1 and 2 of a 4-point scale from 1 'very concerned' to 4 'not at all concerned'. For example, 60% of German (DE) respondents are concerned about road accidents.*

## 3.2 Modes of transport

Traffic accidents are mostly random events; they occur on transport networks as a result of the interactions between road users, infrastructure, and technical issues. In order to understand the self-declared attitudes and behaviour of the respondents, their transport usage pattern must be studied first. The participants of the survey were asked: 'What were your most frequently used modes of transport during the last 12 months?' In addition, the respondents were asked to consider their 'top 3' among these modes, but their choices were not ranked (i.e., first, second, and third). The answers to this question not only indicate the modes most frequently used; they also provide an indicator of the modes

most likely affected by road accidents and the general perspective of road users pertaining to traffic crashes.

### 3.2.1 Group results

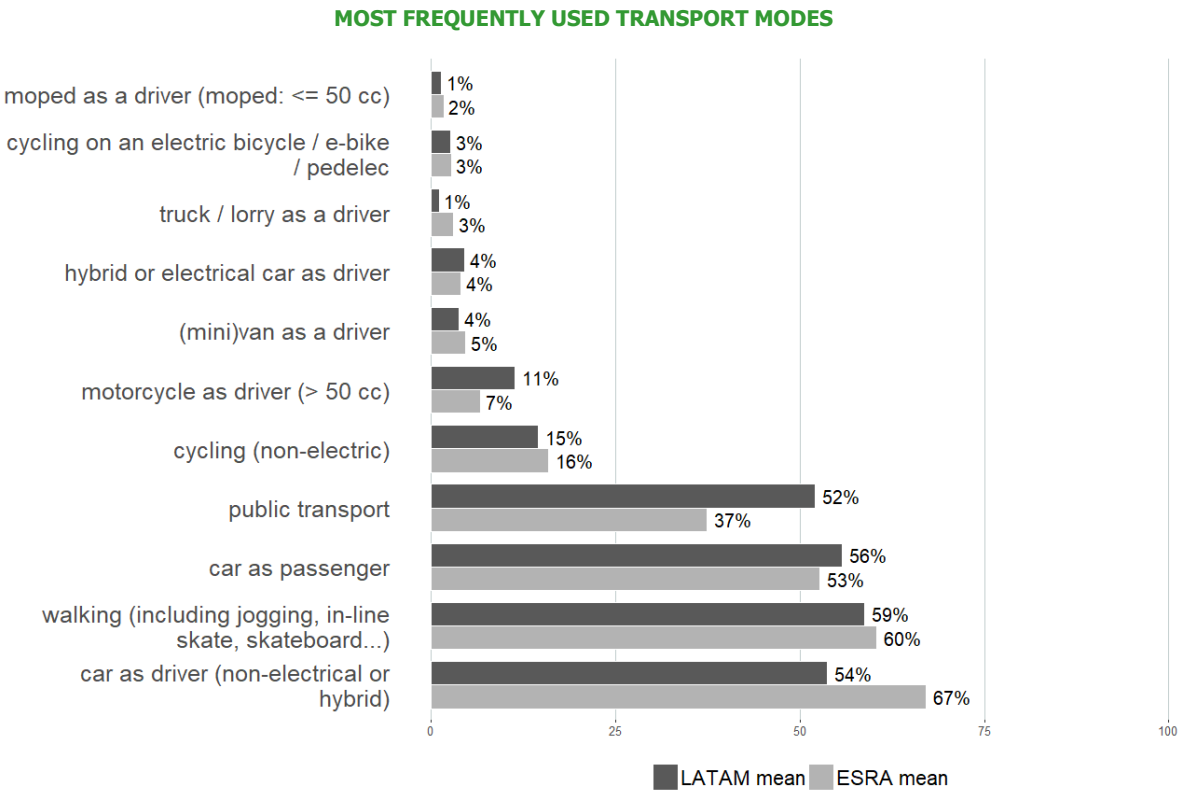


Figure 3: Most frequently used modes of transport in past twelve months ranked in the 'top 3' by respondents per group[3]

*Note: ESRA mean is based on ESRA group weight; LATAM mean is based on LATAM group weight.*

Figure 3 shows the most frequently used modes of transport in the last twelve months ranked in the 'top 3' by respondents per group. The light gray represents the ESRA mean, which indicates the overall picture of the 38 participating countries. The dark gray corresponds to the LATAM mean, which represents the results of the 13 participating Latin American countries. Furthermore, the ESRA mean is used as reference for the ordering of the modes – from least to most 'top 3' frequently used mode. The percentage indicates the proportion of respondents favoring a mode.

'Car as driver', 'walking', 'car as passenger', 'public transport', and 'cycling' are the most popular modes chosen by respondents from both ESRA and LATAM. The rates of 'car as driver' and 'walking' in ESRA are 67% and 60%, respectively; the difference between these two modes is about 7%. Therefore, the majority of commute in ESRA is done by walking or driving a car. These two modes are favored by LATAM respondents with 59% (walking) and 54% (driving); the differece is about 5%. However, the LATAM percentages are lower; walking is slightly more preferred.

[3] *People tend to forget short walks (e.g., walking to your parked car). Therefore, the percentage of respondents saying they have walked during the past 12 months is an underestimation of the real percentage (e.g., Zmud, Lee-Gosselin, Carrasco, & Munizaga, 2013; Zhao et al., 2015)*

'Car as passenger' is the third most popular transport mode (53% for ESRA and 56% for LATAM), while public transport is the fourth (37% for ESRA and 52% for LATAM). Cycling is the fifth most used mode for ESRA (16%) and LATAM (15%).

At the group level, the order of the modes is similar in LATAM road users and the overall ESRA picture. An inference from these results is that overall ESRA and LATAM respondents are more likely to walk, drive, be a passenger of a vehicle, and use public transit than to cycle. Figure 1Figure 3 also illustrates that the level of cycling is very similar in both ESRA and LATAM.

### 3.2.2 National results

Table 4: Five frequently used 'top 3' modes of transport in the last twelve months per country (top five, bottom five)

| Country/Group | Walking | Car as driver | Car as passenger | Public transport | Cycling |
|---|---|---|---|---|---|
| Argentina | 73% | 55% | 49% | 52% | 18% |
| Australia | 61% | 75% | 62% | 35% | 11% |
| Austria | 61% | 62% | 34% | 39% | 23% |
| Belgium | 64% | 75% | 51% | 30% | 32% |
| Bolivia | 54% | 31% | 56% | 68% | 5% |
| Brazil | 57% | 64% | 56% | 45% | 15% |
| Canada | 69% | 70% | 60% | 26% | 13% |
| Chile | 61% | 51% | 55% | 56% | 13% |
| Colombia | 60% | 43% | 50% | 54% | 20% |
| Costa Rica | 59% | 50% | 62% | 64% | 10% |
| Czech Republic | 84% | 62% | 57% | 47% | 21% |
| Denmark | 72% | 75% | 54% | 24% | 45% |
| Ecuador | 65% | 37% | 61% | 66% | 12% |
| Finland | 84% | 74% | 59% | 30% | 28% |
| France | 63% | 83% | 41% | 30% | 15% |
| Germany | 63% | 77% | 39% | 31% | 33% |
| Greece | 64% | 75% | 41% | 40% | 7% |
| Guatemala | 56% | 54% | 58% | 45% | 5% |
| Hungary | 78% | 52% | 46% | 47% | 33% |
| Ireland | 68% | 79% | 59% | 34% | 13% |
| Israel | 69% | 75% | 56% | 45% | 8% |
| Italy | 66% | 84% | 43% | 27% | 22% |
| Mexico | 56% | 54% | 58% | 56% | 17% |
| Netherlands | 53% | 68% | 39% | 22% | 51% |
| Norway | 70% | 69% | 56% | 39% | 21% |
| Paraguay | 38% | 57% | 47% | 47% | 6% |
| Peru | 63% | 21% | 62% | 64% | 11% |
| Poland | 68% | 59% | 47% | 38% | 35% |
| Portugal | 71% | 82% | 62% | 28% | 7% |
| Republic of Korea | 73% | 64% | 35% | 74% | 12% |

| Country/Group | Walking | Car as driver | Car as passenger | Public transport | Cycling |
|---|---|---|---|---|---|
| Slovenia | 30% | 87% | 24% | 13% | 16% |
| Spain | 70% | 79% | 50% | 44% | 8% |
| Sweden | 79% | 64% | 52% | 37% | 30% |
| Switzerland | 63% | 73% | 40% | 43% | 18% |
| United Kingdom | 65% | 72% | 53% | 41% | 8% |
| United States | 50% | 72% | 60% | 15% | 9% |
| Uruguay | 66% | 46% | 47% | 51% | 16% |
| Venezuela | 53% | 41% | 61% | 64% | 5% |
| LATAM mean | 59% | 54% | 56% | 52% | 15% |
| Europe mean | 66% | 75% | 46% | 35% | 22% |
| ESRA mean | 60% | 67% | 53% | 37% | 16% |

top five bottom five

*Note: Individual country result is weighted by individual country weight; ESRA mean is by ESRA group weight; LATAM mean is by LATAM group weight; Europe mean is by Europe group weight.*

Table 4 presents information on the use of the five most common transport modes at the national level. It shows the percentage of respondents in each country that identify each mode as one of their 'top 3'. The light purple colour indicates the top five rates per mode, while the light brown represents the bottom five. 'Walking' is the 'top 3' choice by respondents from Finland (84%), Czech Republic (84%), Sweden (79%), Hungary (78%), and Argentina (73%). Furthermore, the national means for 36 out of 38 countries are above 50% – ranging from 50% to 84%. However, national means of this mode for Paraguay and Slovenia are 38% and 30%, respectively. While Paraguay and Slovenia occupy the 37th and 38th in walking, Bolivia (54%), the Netherlands (53%), and Venezuela (53%) round out the bottom. An inference from these rates is that road users in Finland, Czech Republic, Sweden, Hungary, and Argentina are more likely to walk than those in Paraguay, Slovenia, Bolivia, the Netherlands, and Venezuela.

Interestingly, 87% of Slovenian respondents prefer to drive; this country has the highest national mean for 'car as driver'. This provides a little more information concerning the low rate of walking among Slovenian respondents. Slovenia has the second lowest percentage of walking at 38; an interpretation is that Slovenian road users are more likely to drive than to walk. The next four countries in 'car as driver' are European countries – Italy (84%), France (83%), Portugal (82%), and Spain (79%). It is not surprising for the means to be high in these countries for driving; they are industrialised countries. Even though these countries have walkable city centers, it appears that driving is the preferred mode for commuting. On the other end, Latin American countries – Peru (21%), Bolivia (31%), Ecuador (37%), Venezuela (41%), and Colombia (43%) – have the lowest percentages of respondents to choose this mode as 'top 3' in the last twelve months. These results could indicate that infrastructure or private car ownership is still in development in these LATAM countries.

Australia (62%), Costa Rica (62%), Peru (62%), Portugal (62%), and Ecuador (61%) occupy the top five in 'car as passenger'; road users in these countries are more likely to be passengers than other countries in this survey. Slovenia (24%), Austria (34%), Republic of Korea (35%), the Netherlands (39%), and Germany (39%) are at the bottom. The Slovenian result renforces its result in 'car as driver'; a Slovenian road user is more likely to be a driver than a pedestrian or a passenger in a car.

After 'car as passenger', the fourth most popular mode is public transit. Republic of Korea (74%), Bolivia (68%), Ecuador (66%), Peru (64%), and Venezuela (64%) are the top countries for this mode. However, the percentages for public transit are much lower in Slovenia (13%), US (15%), Netherlands (22%), Denmark (24%), and Canada (26%). Once again, the result for Slovenia further explains its numbers in 'car as driver'.

Lastly, cycling is the fifth most popular mode. The Netherlands (52%), Denmark (45%), Poland (35%), Germany (33%), and Hungary (33%) are the top five countries in this mode, while Guatemala (5%), Bolivia (5%), Venezuela (5%), Paraguay (6%), and Portugal (7%) are at the bottom. The results for Denmark and the Netherlands reaffirm their images as bicycle friendly countries.

## 3.3 Self-declared traffic behaviour

Talking on the phone while driving, driving after drinking alcohol, driving over the speed limit, not wearing a seatbelt, and crossing the road as a cyclist when the traffic light is red are examples of aggressive or negligent conduct on the road. These actions are at the root of the majority of road crashes. Therefore, the ESRA1 survey contains questions pertaining to these behaviours. ESRA1 survey participants were asked to evaluate the frequency of their behaviour in the past twelve months on a 5-point scale from 1 'never' to 5 '(almost) always'. The results presented in the following sections refer to the dichotomisation of scores 2-5 ('at least once') for distraction/fatigue, DUI, and speed; they show the percentage of respondents who declared that they have shown a certain behaviour at least once in the last twelve months. In the case of protective system ('seat belt use' and 'child restraint system'), the results refer to the percentage of respondents who declared that they '(almost) always' (score 5) used a protective system in the last twelve months.

### 3.3.1 Group results

Figure 4 presents self-declared safe and unsafe traffic behaviours as a road user in the past twelve months by groups. Each type of behaviour is colour-coded according to topics – speed (red), protective system (green), DUI (yellow), and distraction/fatigue (blue). The light colours correspond to ESRA means; these values provide an overall picture of the 38 countries. The dark colours represent LATAM means; these results are specific to the 13 Latin American countries. Furthermore, questions relating to unsafe behaviour have negative responses, and those for safe behaviour have positive responses. These two types of responses are separated by a dotted line: negative above and positive below. The ESRA mean is used as a reference for the descending order of the responses on each side of the dotted line.

The unsafe behaviour topic most reported is speeding. The behaviours 'drive over speed limit on motorways' and 'drive over speed limit outside built-up areas (except motorways)' have the highest means for ESRA (68% and 65%, respectively) and LATAM (56% and 51%, respectively). An inference is that speeding is a major problem in the overall ESRA results as well as for LATAM countries.

There is a noticeable difference between the rates for LATAM countries and the overall ESRA percentages for 'realised too tired to drive' and 'talk on hands-free phone while driving': for ESRA 62% and 55% (respectively) and for LATAM 67% and 58% (respectively). These results indicate that LATAM respondents are more likely to drive while being tired or using a phone than the overall ESRA respondents.

The unsafe behaviour topic relating to DUI is the lowest for both ESRA and LATAM. These behaviours are 'drive after drinking alcohol' (30% and 29%, respectively), 'drive while on medication with warning against driving' (25% and 21%, respectively), and 'drive after using illegal drugs' (14% and 12%,

respectively). In terms of the behaviours in DUI, the variation between LATAM countries and the general ESRA picture is less than 5%.

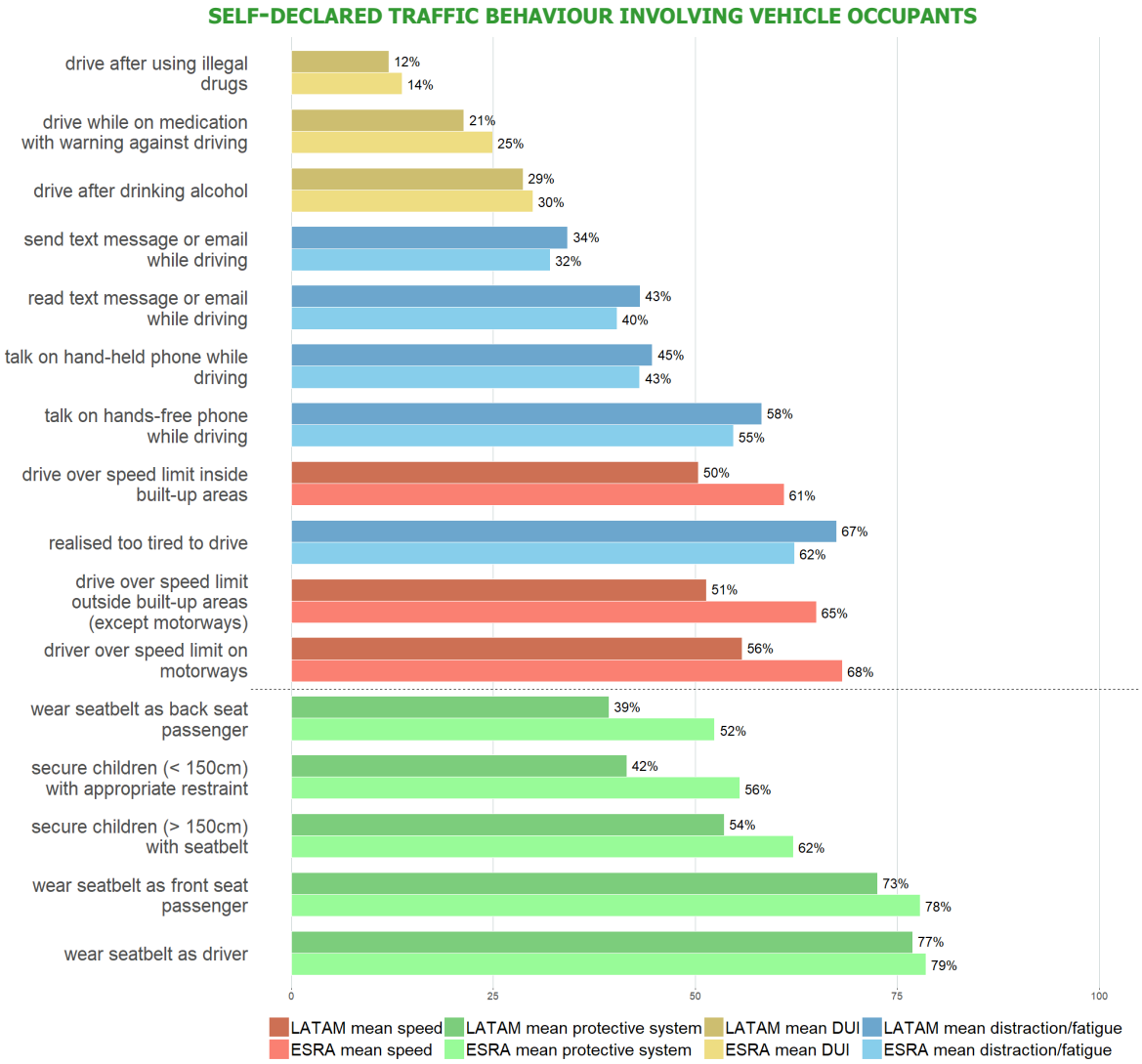


Figure 4: Self-declared traffic behaviour involving vehicle occupants in the past twelve months per group

*Notes:*
*(1) Above the dotted line, the percentages of respondents with a certain unsafe behaviour 'at least once' during the past twelve months (i.e., scores 2-5 on a 5-point scale from 1 'never' to 5 '(almost) always') are presented. For example, the percentage of respondents reports that they have 'at least once' drive after drinking.*
*(2) Below the dotted line, the percentages of respondents with a certain safe behaviour '(almost) always' during the past twelve months (i.e., score 5 on a 5-point scale from 1 'never' to 5 '(almost) always') are presented. An example is the percentage of respondents '(almost) always' wears seatbelt as driver.*
*(3) In Slovenia, the question 'talk on hand-held mobile phone' refers to talk on the phone while driving, without limiting it to hand-held phone use only.*
*(4) The specification about the height of children (over/under '150 cm') was adapted to the policies in each country (e.g. in Belgium regulations state '135 cm').*
*(5) ESRA group weight is based on 38 countries; LATAM group weight is based on the 13 participating Latin American countries.*

The safe behaviour topic concerns the use of protective system by vehicle occupants, both drivers and passengers. The highest percentages are for 'wear seatbelt as driver' and 'wear seatbelt as front seat passenger'; the difference between LATAM countries and the overall ESRA rates is less than 5%. It

appears that more than three fourths of respondents who are drivers or passengers wear seatbelt. In terms of properly securing children, the reported percentages for 'secure children (<150cm) with appropriate restraint' and 'secure children (>150cm) with seatbelt' are 56% and 62%, respectively, for ESRA. For LATAM, the percentages are considerably lower with 42% and 54%, respectively. It seems that respondents from LATAM are less likely to use child restraints than the overall ESRA. 'Wear seatbelt as back seat passenger' is the lowest reported safe behaviour with 52% (ESRA) and 39% (LATAM). In general, it seems that self-declared usage of seatbelt is highest for front seat occupants, and lowest for back seat passengers. In other words, about 4 in 10 LATAM back seat passengers wear seatbelts, and the number is 5 in 10 for ESRA; about 8 in 10 LATAM and ESRA drivers wear seatbelts.

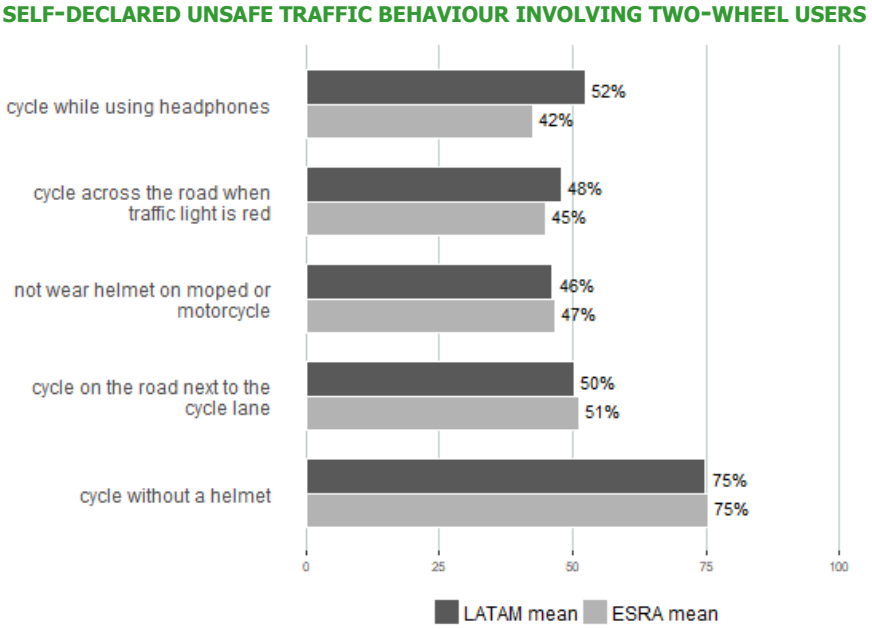


Figure 5: Self-declared unsafe behaviour involving two-wheel road users in the past twelve months by group

*Notes:*
*(1) The percentages of respondents with a certain unsafe behaviour 'at least once' during the past 12 months (i.e., scores 2-5 on a 5-point scale from 1 'never' to 5 '(almost) always') are presented. An example is 52% of LATAM respondents cycle while using headphones.*
*(2) Non-motorized two-wheel bicyle is indicated by 'cycle'.*
*(3) ESRA mean is weighted by ESRA group weight; LATAM mean is by LATAM group weight.*

Increasingly, road users are choosing two-wheelers – bicycle, e-bike, moped, and motorcycle – as a mode of transport. These two-wheelers often do not have designated and separated infrastructure such as cycling lane. In most countries, they share the road network with car drivers; this sharing of the road makes these users vulnerable. Therefore, it is invaluable to understand their road safety practices. Figure 5 shows the weighted means of ESRA (light gray) and LATAM (dark gray) for self-declared behaviour of two-wheelers. About three fourths of cyclists of ESRA and LATAM have reported that they do not wear a helmet while cycling; both groups have means of 75%. 'Cycle while using headphones' has been reported by about half of cyclists. The rates are 42% for ESRA and 52% for LATAM. 'Cycle on the road next to the cycle lane', 'cycle across the road when traffic light is red', and 'not wear helmet on moped or motorcycle' have self-declared rates around 45% to 50% for both groups. The difference between the general ESRA rates and those of the LATAM group is about 1% to 3%.

Walking is the most used mode of transport for LATAM respondents and second for ESRA overall. The users of this mode are considered the most vulnerable as they are more likely to be seriously injured in

case of crashes with other types of road users. The majority of urban roads in both groups have dedicated sidewalks for pedestrians, but there are times when these users share the road with cyclists and drivers – while crossing. Thus, the road safety practice of these users would give some insights into their situation in traffic. Figure 6 shows ESRA (light gray) and LATAM (dark gray) means of some self-declared unsafe behaviours of pedestrians.

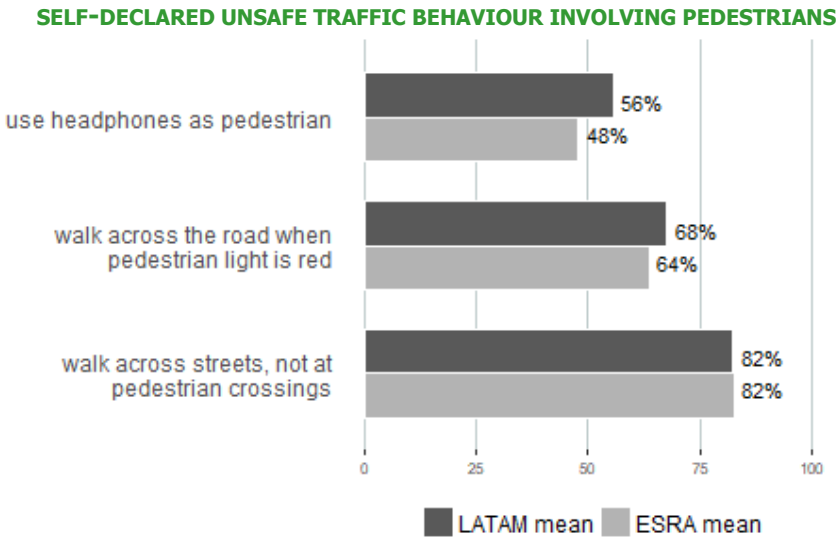


Figure 6: Self-declared unsafe behaviour involving pedestrians in the past twelve months by group

*Notes:*
*(1) The percentages of respondents with a certain unsafe or safe behaviour 'at least once' during the past twelve months (i.e., scores 2-5 on a 5-point scale from 1 'never' to 5 '(almost) always') are presented. An example is 48% of ESRA respondents have admitted to using headphones while walking 'at least once'.*
*(2) ESRA mean is weighted by ESRA group weight; LATAM mean is by LATAM group weight.*

'Walk across streets, not at pedestrian crossings' has the highest reported rates of 82% for the overall ESRA mean and LATAM mean; about four fifths of pedestrians do not cross the road at designated infrastructure – crosswalks. The second most declared behaviour is 'walk across the road when pedestrian light is red', with ESRA 64% and LATAM 68% of respondents who declared that they have done this 'at least once' in the last twelve months.

Finally, 'use headphones as pedestrian' is admitted by 48% of respondents for ESRA and 56% for LATAM. The variation between the general ESRA results and those of LATAM is 1% for 'walk across streets, not at pedestrian crossings', 4% for 'walk across the road when pedestrian light is red', and 8% for 'use headphones as pedestrians'. It appears that ESRA and LATAM respondents are more likely to cross streets at non-pedestrian crossings than to use headphones while walking. The reported percentages of headphone use in pedestrians are similar to those of cyclists.

### 3.3.2 National results

Table 5: Self-declared traffic behaviour in the last twelve months per country and group (top five, bottom five)

| Country/Group | DISTRACTION | DUI | SPEED | FATIGUE | PROTECTIVE SYSTEM |
|---|---|---|---|---|---|
| | talk on hand-held phone while driving | drive after drinking alco-hol | drive over speed limit on motorways | realised too tired to drive | wear seatbelt as back seat passenger |
| Argentina | 36% | 28% | 52% | 70% | 43% |
| Australia | 28% | 31% | 61% | 57% | 77% |
| Austria | 47% | 30% | 81% | 57% | 66% |
| Belgium | 28% | 43% | 73% | 53% | 75% |
| Bolivia | 51% | 33% | 60% | 76% | 17% |
| Brazil | 46% | 29% | 51% | 61% | 44% |
| Canada | 25% | 28% | 77% | 54% | 72% |
| Chile | 42% | 24% | 64% | 73% | 39% |
| Colombia | 40% | 18% | 60% | 73% | 30% |
| Costa Rica | 50% | 27% | 63% | 73% | 49% |
| Czech Republic | 41% | 11% | 73% | 65% | 63% |
| Denmark | 42% | 32% | 81% | 52% | 82% |
| Ecuador | 50% | 33% | 56% | 76% | 29% |
| Finland | 73% | 18% | 84% | 67% | 86% |
| France | 31% | 41% | 68% | 66% | 70% |
| Germany | 35% | 30% | 80% | 57% | 72% |
| Greece | 61% | 29% | 71% | 56% | 15% |
| Guatemala | 59% | 29% | 61% | 79% | 40% |
| Hungary | 39% | 11% | 62% | 51% | 55% |
| Ireland | 30% | 20% | 61% | 52% | 71% |
| Israel | 43% | 18% | 79% | 61% | 66% |
| Italy | 55% | 34% | 76% | 70% | 24% |
| Mexico | 45% | 32% | 61% | 70% | 40% |
| Netherlands | 24% | 29% | 78% | 46% | 64% |
| Norway | 51% | 13% | 89% | 67% | 75% |
| Paraguay | 54% | 30% | 61% | 74% | 40% |
| Peru | 38% | 27% | 56% | 76% | 30% |
| Poland | 48% | 12% | 57% | 64% | 53% |
| Portugal | 46% | 34% | 81% | 59% | 53% |
| Republic of Korea | 60% | 26% | 77% | 72% | 22% |
| Slovenia | 60% | 30% | 73% | 77% | 54% |
| Spain | 35% | 35% | 74% | 66% | 70% |
| Sweden | 62% | 13% | 82% | 51% | 81% |
| Switzerland | 35% | 38% | 80% | 61% | 60% |
| United Kingdom | 22% | 28% | 66% | 50% | 75% |

| Country/Group | DISTRACTION | DUI | SPEED | FATIGUE | PROTECTIVE SYSTEM |
|---|---|---|---|---|---|
| United States | 50% | 32% | 73% | 60% | 56% |
| Uruguay | 32% | 18% | 62% | 65% | 42% |
| Venezuela | 50% | 32% | 62% | 74% | 33% |
| LATAM mean | 45% | 29% | 56% | 67% | 39% |
| Europe mean | 38% | 30% | 73% | 60% | 62% |
| ESRA mean | 43% | 30% | 68% | 62% | 52% |

top five bottom five

*Note:*
*Individual country result is weighted by individual country weight; ESRA mean is by ESRA group weight; LATAM mean is by LATAM group weight; Europe mean is weighted by the Europe group weight.*

Table 5 shows the rates of selected self-declared behaviours at the country level. The five countries with the highest values are highlighted in light purple, while the five countries with the lowest values are in light brown. Northern European countries – Norway, Finland, Sweden, and Denmark – and Austria have the highest reported rates of speeding on the motorways with 89%, 84%, 82%, 81%, and 81%, respectively. On the other end, Latin American countries – Brazil (51%), Argentina (52%), Ecuador (56%), and Peru (56%) – and Poland (57%) have the lowest percentages for this self-declared behaviour.

In terms of DUI (alcohol), Western European countries – Belgium, France, Switzerland, Spain, and Portugal – have the highest reported percentages in 'drive after drinking alcohol' with 43%, 41%, 38%, 35%, and 34%, respectively. The countries with the lowest rates of this behaviour are Northern and Central European countries – Hungary (11%), Czech Republic (11%), Poland (12%), Norway (13%), and Sweden (13%)

Regarding fatigue, Guatemala (79%), Slovenia (77%), Bolivia (76%), Ecuador (76%), and Peru (76%) have the top five reported rates for the behaviour 'realised too tired to drive'. The least reported rates are the Netherlands (46%), United Kingdom (50%), Hungary (51%), Sweden (51%), and Ireland (52%).

Lastly, the usage of seatbelt as back seat passenger is a safe behaviour; this behaviour has the lowest reported results for all repondends, as from repondends from Latin America countries. Looking at this behaviour at the national level, the countries with the highest reported rates are Finland (86%), Denmark (82%), Sweden (81%), Australia (77%), and Norway (75%). On the other hand, the countries with the lowest are Greece (15%), Bolivia (17%), Republic of Korea (22%), Italy (24%), and Ecuador (29%). This indicates that respondents from the top five countries are more likely to wear seatbelt as passenger than those of the lowest five countries.

## 3.4 Acceptability of unsafe traffic behaviours

The self-declared behaviour on the road is influenced by the respondents' personal acceptability and their assumptions of the acceptability of others. In order to understand self-declared behaviour, the ESRA1 survey included questions concerning these two types of acceptability. Five unsafe traffic behaviours – 'drive while sleepy and having trouble keeping eyes open', 'drive when they think they may have had too much to drink', talk on hand-held phone while driving', 'not wear seatbelt as back seat passengers', and 'drive over 20 km over speed limit on motorways' – are presented here. The rates represent the dichotomisation of scores 4 and 5 on a 5-point scale of answers; that is to say the percentage of respondents in each group or each country that find a behaviour acceptable (Figure 7).

### 3.4.1 Group results

For any of the listed unsafe traffic behaviours, the acceptability is below 30%, both for respondents from Latin American countries as well as for the overall ESRA. The percentages of LATAM countries are very similar to the general ESRA rates except for speeding. In both categories, speeding has the highest percentages for both groups; it is followed by 'not wear seatbelt as back seat passenger', 'talk on hand-held phone while driving', 'drive while sleepy and having trouble keeping eyes open', and 'drive when they think they may have had too much to drink'.

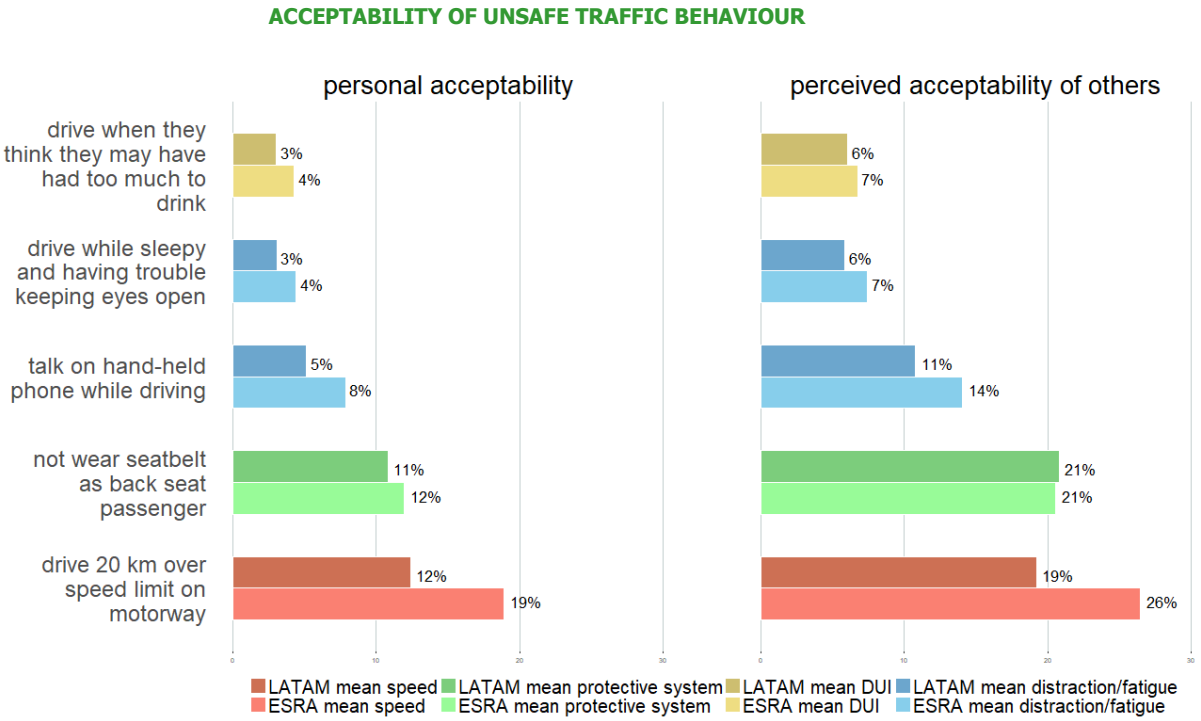


Figure 7: Personal acceptability and perceived acceptability of others in the past twelve months by group

*Notes:*
*(1) Acceptability is on a 5-point scale from 1 'unacceptable' to 5 'acceptable'. The percentages refer to scores 4 and 5, which indicate a behaviour is acceptable. For exanmple, the percentage of respondents finds drive after drinking 'acceptable'.*
*(2) In Slovenia, the behaviour 'talk on hand-held mobile phone' refers to talk on the phone while driving, without limiting it to hand-held phone use only.*
*(3) ESRA group weight is based on 38 countries; LATAM group weight is based on the 13 participating Latin American countries.*

### 3.4.2 National results

Table 6 shows a selection of perceived acceptability of others across topics. For each behaviour, the top five rates are highlighted in light purple, and the bottom five are in light brown. In general, the percentages are below 50% at the national level for perceived acceptability of others for the selected behaviours.

Table 6: Perceived acceptability of others by country and group (top five, bottom five)

| Country/Group | SPEED | DISTRACTION | FATIGUE | DUI | PROTECTIVE SYSTEM |
|---|---|---|---|---|---|
| | drive 20 km over speed limit on motorway | talk on hand-held phone while driving | drive while sleepy and having trouble keeping their eyes open | drive when they think they may have had too much to drink | not weat seat-belt as back seat passenger |
| Argentina | 22% | 14% | 7% | 8% | 23% |
| Australia | 14% | 12% | 9% | 9% | 9% |
| Austria | 43% | 14% | 4% | 3% | 17% |
| Belgium | 30% | 8% | 3% | 4% | 14% |
| Bolivia | 24% | 13% | 8% | 5% | 29% |
| Brazil | 16% | 10% | 7% | 6% | 19% |
| Canada | 31% | 8% | 6% | 6% | 9% |
| Chile | 17% | 7% | 4% | 4% | 17% |
| Colombia | 19% | 7% | 3% | 3% | 22% |
| Costa Rica | 17% | 8% | 5% | 4% | 19% |
| Czech Republic | 28% | 10% | 3% | 1% | 17% |
| Denmark | 30% | 8% | 3% | 1% | 8% |
| Ecuador | 16% | 7% | 4% | 4% | 18% |
| Finland | 26% | 24% | 4% | 2% | 20% |
| France | 28% | 11% | 6% | 7% | 11% |
| Germany | 40% | 20% | 10% | 6% | 19% |
| Greece | 36% | 25% | 10% | 12% | 45% |
| Guatemala | 22% | 13% | 6% | 7% | 23% |
| Hungary | 26% | 5% | 1% | 1% | 16% |
| Ireland | 23% | 12% | 6% | 6% | 12% |
| Israel | 40% | 15% | 5% | 5% | 14% |
| Italy | 46% | 32% | 14% | 7% | 54% |
| Mexico | 23% | 12% | 6% | 7% | 22% |
| Netherlands | 31% | 6% | 4% | 3% | 16% |
| Norway | 32% | 11% | 4% | 3% | 8% |
| Paraguay | 24% | 14% | 5% | 7% | 25% |
| Peru | 16% | 9% | 5% | 5% | 17% |
| Poland | 34% | 17% | 6% | 5% | 24% |
| Portugal | 44% | 8% | 3% | 4% | 17% |
| Republic of Korea | 22% | 14% | 6% | 6% | 25% |
| Slovenia | 28% | 9% | 5% | 4% | 9% |
| Spain | 33% | 9% | 5% | 5% | 11% |
| Sweden | 40% | 21% | 7% | 4% | 12% |
| Switzerland | 30% | 6% | 3% | 2% | 21% |
| United Kingdom | 17% | 7% | 5% | 4% | 10% |
| United States | 27% | 18% | 11% | 10% | 22% |
| Uruguay | 23% | 8% | 4% | 4% | 21% |
| Venezuela | 26% | 15% | 6% | 8% | 27% |
| LATAM mean | 19% | 11% | 6% | 6% | 21% |

| Country/Group | SPEED | DISTRACTION | FATIGUE | DUI | PROTECTIVE SYSTEM |
|---|---|---|---|---|---|
| Europe mean | 33% | 15% | 7% | 5% | 21% |
| ESRA mean | 26% | 14% | 7% | 7% | 21% |

top five bottom five

*Notes:*
*(1) Acceptability is on a 5-point scale from 1 'unacceptable' to 5 'acceptable'. The percentages refer to scores 4 and 5, which indicate a behaviour is acceptable. For example, the percentage of respondents finds drive after drinking 'acceptable'.*
*(2) Individual country result is weighted by individual country weight; ESRA mean is by ESRA group weight; LATAM mean is by LATAM group weight; Europe mean is weighted by Europe group weight.*

Speed limits on motorways are higher than those on rural or urban roads; driving faster than these limits can create dangerous situations. The top five countries for speeding are Israel (40%) and four European countries – Austria (43%), Italy (46%), Portugal (44%), and Sweden (40%). The bottom five countries are Latin American countries - Brazil (16%), Chile (10%), Ecuador (16%), Peru (16%), and the United Kingdom (17%). These numbers are quite high for acceptability among perceived acceptability of others among unsafe behaviours at the national level for both ends. An inference is that drivers from the four Latin American countries and the UK are less likely to find speeding 20 km over the limit acceptable than drivers from Israel and the four European countries.

'Talk on hand-held phone while driving' is one of the sources of distraction for drivers. The five countries with the highest rates are all in Europe: Finland (24%), Germany (20%), Greece (25%), Italy (32%), and Sweden (21%). In contrast, the five countries with the lowest percentages are four European countries – Hungary (5%), the Netherlands (6%), Switzerland (6%), and the UK (7%) – and Ecuador (7%). An inference is that drivers from the top five countries are more likely to find using phone while driving acceptable than the ones from the bottom five countries.

Driving is an activity that requires a high level of alertness and concentration; in a state of fatigue, drivers lack a sufficient level of these mental and physical capacities. The five countries with the highest rates for 'drive while sleepy and having trouble keeping eyes open' are Australia (9%), the US (11%), Germany (10%), Greece (10%), and Italy (14%). On the other hand, the five countries with the lowest rates are Hungary (1%) and Belgium, Colombia, Denmark, and Switzerland (all 3%). The range of acceptability for this behaviour is lowest among the selected behaviours in perceived acceptability of others. In addition, these rates indicate that drivers from the top five countries are likely to find this behaviour acceptable, while the bottom five are even less incline to think so.

DUI involving alcohol can significantly affect capacity of drivers in terms of their ability to drive safely and to react to changes on the road. This behaviour of perceived acceptablity is highest among respondents from Greece (12%), the US (10%), Australia (9%), Argentina (8%), and Venezuela (8%); these countries make up the top five. The bottom five countries are five European countries – Czech Republic (1%), Denmark (1%), Hungary (1%), Finland (2%), and the UK (2%). The respondents from the top five countries are more likely to think driving after too many drinks is acceptable, while the bottom five find this behaviour less acceptable.

Seatbelt has been instrumental in saving lives in road crashes, when it is used. This practice is not only important for drivers, but it is also essential for back seat passengers. Even though the benefits of seatbelt use for back seat passengers are well known, it is surprising that around 20% of ESRA respondents think that others find it acceptable to 'not use seatbelt in the back of the car'. At the national level, the five countries with the highest rates of road users who think that it is acceptable to not use the seatbelt in the back of the car are: Bolivia (29%), Greece (45%), Italy (54%), Paraguay (25%),

and Venezuela (27%). Rounding out the bottom are Australia (9%), Canada (9%), Ecuador (8%), Norway (8%), and Slovenia (9%); road users of these countries are likely to find 'not wearing a seatbelt in the back of the car' less acceptable than those of the top five.

## 3.5 Attitudes towards road safety

Another essential aspect to discerning the true conduct of drivers is their attitude towards road safety practices. The ESRA1 survey includes a series of questions asking respondents whether they agree or disagree with statements about risk perception and social norms. The answers of respondents are dichotomised from scores ranging from 1 'disagree' to 5 'agree': scores of 4 and 5 represent agreement with a statement about a behaviour, and they are shown on graphs and tables in this subsection as percentages.

### 3.5.1 Group results

Figure 8 illustrates the responses of the overall ESRA results and those of LATAM countries to selected statements across topics – distraction, DUI, fatigue, protective system, and speed. The percentages of all the behaviours for both groups are similar; percentages of LATAM countries are within 5% of the overall ESRA results.

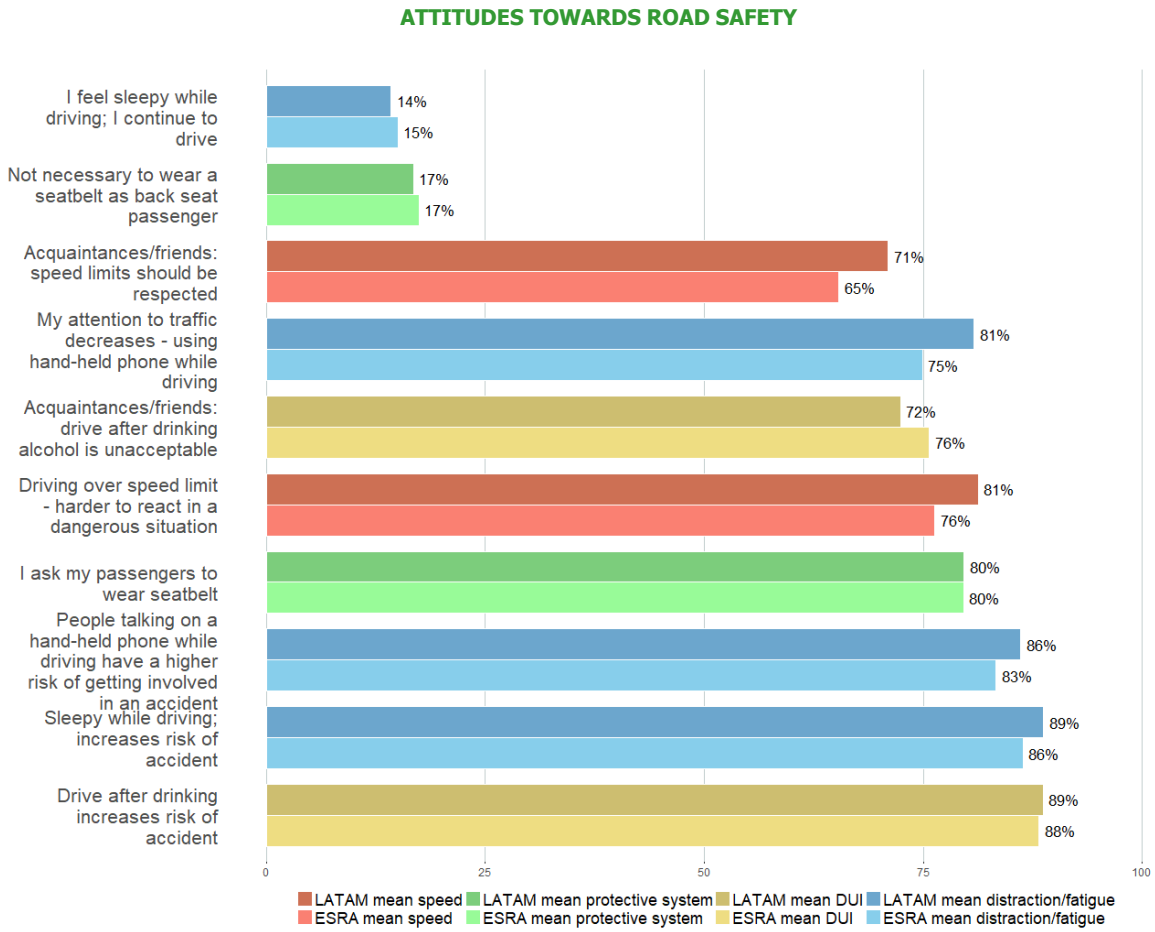


Figure 8: Attitudes towards road safety in the past twelve months by group

*Notes:*
*(1) Attitude is on a 5-point scale from 1 'disagree' to 5 'agree'. The percentages represent scores 4 and 5, which indicate agreement with a statement. For example, the percentage of respondents agrees to 'I feel sleepy while driving; I continue to drive'.*
*(2) In Slovenia, the behaviour 'talk on hand-held mobile phone' refers to talk on the phone while driving, without limiting it to hand-held phone use only.*
*(3) ESRA group weight is based on thirty-eight countries; LATAM group weight is based on the thirteen participating Latin American countries.*

## 3.5.2 National results

Analysis of attitudes with respect to national results centres on risk perception; this choice is made intentionally to be in line with the selections made in the subchapters 'self-declared behaviours' and 'perceived acceptability of others'. The selected behaviours are on the topics of distraction, DUI, fatigue, protective system, and speed. Table 7 presents the rates of individual countries and groups. For each behaviour, light purple corresponds to the top five results, and light brown is for the bottom five.

Table 7: Risk perception per country and group (top five, bottom five)

| Country/Group | DISTRACTION | DUI | SPEED | FATIGUE | PROTECTIVE SYSTEM |
|---|---|---|---|---|---|
| | use hand-held phone = higher risk of accident | DUI alcohol = increases risk of accident | Speeding -> harder to react when danger | drowsy driving = increase accident risk | not necessary to wear seatbelt for back seat passen-gers |
| Argentina | 85% | 88% | 83% | 88% | 13% |
| Australia | 88% | 91% | 81% | 88% | 13% |
| Austria | 83% | 91% | 62% | 85% | 13% |
| Belgium | 91% | 90% | 65% | 87% | 7% |
| Bolivia | 90% | 92% | 86% | 91% | 14% |
| Brazil | 86% | 87% | 78% | 87% | 18% |
| Canada | 83% | 88% | 77% | 85% | 14% |
| Chile | 85% | 91% | 85% | 89% | 15% |
| Colombia | 87% | 91% | 84% | 91% | 21% |
| Costa Rica | 92% | 95% | 89% | 95% | 14% |
| Czech Republic | 86% | 93% | 70% | 91% | 13% |
| Denmark | 85% | 93% | 74% | 87% | 7% |
| Ecuador | 87% | 90% | 84% | 91% | 19% |
| Finland | 81% | 96% | 79% | 93% | 6% |
| France | 75% | 82% | 64% | 81% | 14% |
| Germany | 82% | 86% | 66% | 83% | 13% |
| Greece | 83% | 90% | 82% | 88% | 23% |
| Guatemala | 90% | 93% | 87% | 93% | 14% |
| Hungary | 86% | 94% | 75% | 88% | 15% |
| Ireland | 82% | 86% | 77% | 86% | 11% |
| Israel | 84% | 88% | 71% | 85% | 9% |
| Italy | 87% | 95% | 84% | 91% | 23% |
| Mexico | 85% | 89% | 80% | 88% | 16% |
| Netherlands | 85% | 88% | 59% | 81% | 13% |
| Norway | 82% | 93% | 75% | 91% | 9% |
| Paraguay | 91% | 94% | 90% | 96% | 16% |
| Peru | 88% | 90% | 86% | 90% | 16% |
| Poland | 82% | 89% | 74% | 86% | 21% |
| Portugal | 88% | 92% | 77% | 93% | 14% |
| Republic of Ko-rea | 84% | 88% | 81% | 88% | 27% |
| Slovenia | 58% | 86% | 74% | 87% | 14% |
| Spain | 82% | 84% | 73% | 87% | 12% |
| Sweden | 77% | 87% | 71% | 82% | 11% |
| Switzerland | 86% | 89% | 68% | 87% | 18% |
| United Kingdom | 81% | 87% | 74% | 83% | 12% |
| United States | 81% | 88% | 76% | 84% | 22% |
| Uruguay | 87% | 89% | 82% | 90% | 16% |

| Country/Group | DISTRACTION | DUI | SPEED | FATIGUE | PROTECTIVE SYSTEM |
|---|---|---|---|---|---|
| Venezuela | 90% | 91% | 86% | 92% | 16% |
| LATAM mean | 86% | 89% | 81% | 89% | 17% |
| Europe mean | 82% | 88% | 72% | 85% | 15% |
| ESRA mean | 83% | 88% | 76% | 86% | 17% |

top five bottom five

*Notes:*
*(1) Attitude is on a 5-point scale from 1 'disagree' to 5 'agree'. The percentages represent scores 4 and 5, which indicate agreement to a statement of a behaviour. Saying the percentage of respondents 'agree' to sleepy while driving – continue to drive. For example, the percentage of respondents agrees to 'use hand-held phone means higher risk of accident'.*
*(2) In Slovenia, the behaviour 'talk on hand-held mobile phone' refers to talk on the phone while driving, without limiting it to hand-held phone use only.*
*(3) Individual country result is weighted by individual country weight; ESRA mean is by ESRA group weight; LATAM mean is by LATAM group weight; Europe mean is weighted by Europe group weight.*

The rates for attitudes of selected perception of risk further explain the behaviour of drivers. The results are encouraging for behaviours relating to distraction, DUI, fatigue, protective system, and speed.

First, 37 out of 38 countries have rates above 75% for distraction topic; respondents agree that using a hand-held phone while driving is a risky behaviour. Only 58% of respondents from Slovenia agree that this distraction is risky. Digging deeper into this behaviour in a related theme (self-declared), 60% of respondents from Slovenia have reported that they have used a hand-held phone while driving in the last twelve months. An inference is that Slovenian drivers are likely to engage in this unsafe behaviour.

For DUI involving alcohol, in all 38 countries over 80% of respondents agree that this behaviour can increase the risk of crashes. France has the lowest percentage at 82%. This rate is related to that of self-declared behaviour; France has 41% rate of self-reported drive after drinking alcohol. French drivers are more likely to drive after consuming alcohol than other drivers in ESRA. On the other hand, Hungarian drivers are less likely to drive under the influence of alcohol; self-declared (DUI) is 11% and risk perception (DUI) is 94% .

Speeding shows the widest range of all five behaviours – lowest 59% and highest 90%. The rates of five Latin American countries – Bolivia (86%), Costa Rica (89%), Guatemala (87%), Paraguay (90%), and Peru (86%) - make up the top five. Five European countries – Austria (62%), Belgium (65%), France (64%), Germany (66%), and the Netherlands (59%) – round out the bottom five with the lowest rates. Looking at speeding – across geography and themes (attitudes, self-declared, and perceived acceptability of others) – Latin American drivers generally are likely to find speeding risky. This is reflected in their low percentages of self-declared speeding and perceived acceptability of others for this behaviour.

Drowsiness is a sign of fatigue; driving while feeling fatigue is risky. Over four fifths of respondents agree that this behaviour is unsafe. This behaviour has the smallest range among risk perception – 83% to 96%.

Lastly, 'not necessary to wear seatbelt for back seat passengers' has the lowest percentages, ranging from 6% to 27%. This behaviour also has low rates of acceptability.

## 3.6 Subjective safety

When deciding to use a particular transport mode, the feeling of personal safety, is one of the factors considered – along side affordability, security, quality of infrastructure, etc. Questions relating to personal safety are included in the ESRA1 survey; respondents rate their subjective safety feeling on a scale of 0 (very unsafe) to 10 (very safe). Concerning this theme, only the national results are examined in detail, given the great diversity of transport infrastructure and systems among the ESRA1 countries.

Table 8 shows the scores of countries and groups. Light purple is used to highlight the five highest scores among countries, and light brown indicates the five lowest.

Table 8: Subjective safety of selected transport modes per country and group (top five, bottom five)

| Country/Group | Walking | Car as driver | Car as passenger | Public Transit | Cycling | Motorcycle (≤50) |
|---|---|---|---|---|---|---|
| Argentina | 5.4 | 6.2 | 5.8 | 5.7 | 4.9 | 5.1 |
| Australia | 7.1 | 7.4 | 7.0 | 7.2 | 6.3 | 7.2 |
| Austria | 7.5 | 7.9 | 7.1 | 8.3 | 6.2 | 5.3 |
| Belgium | 6.1 | 6.5 | 6.5 | 7.3 | 5.4 | 4.2 |
| Bolivia | 5.8 | 6.9 | 5.5 | 4.4 | 4.3 | 8.2 |
| Brazil | 5.4 | 6.7 | 6.2 | 5.4 | 5.2 | 4.8 |
| Canada | 6.9 | 7.3 | 7.0 | 7.6 | 6.0 | 6.6 |
| Chile | 5.9 | 6.8 | 6.2 | 4.8 | 4.7 | 4.5 |
| Colombia | 5.0 | 6.7 | 6.4 | 4.7 | 4.5 | 4.8 |
| Costa Rica | 5.4 | 7.5 | 7.0 | 6.0 | 5.0 | 4.2 |
| Czech Republic | 6.1 | 6.1 | 5.9 | 7.1 | 5.2 | 4.5 |
| Denmark | 8.3 | 8.2 | 7.7 | 8.4 | 7.4 | 5.4 |
| Ecuador | 5.8 | 7.5 | 6.5 | 4.4 | 5.7 | 5.4 |
| Finland | 7.9 | 7.8 | 7.5 | 8.3 | 7.3 | 6.4 |
| France | 6.2 | 6.3 | 6.1 | 7.3 | 4.9 | 4.3 |
| Germany | 7.5 | 7.8 | 7.0 | 8.0 | 6.4 | 5.8 |
| Greece | 6.7 | 6.6 | 6.2 | 7.4 | 4.8 | 4.4 |
| Guatemala | 4.2 | 7.1 | 6.7 | 2.4 | 4.4 | 5.1 |
| Hungary | 6.7 | 6.1 | 6.2 | 7.3 | 5.5 | 5.3 |
| Ireland | 6.6 | 7.1 | 6.8 | 7.6 | 5.2 | 5.8 |
| Israel | 6.3 | 5.9 | 5.6 | 6.4 | 5.0 | 4.1 |
| Italy | 7.0 | 7.6 | 6.6 | 8.0 | 5.2 | 6.0 |
| Mexico | 5.1 | 6.7 | 6.4 | 4.5 | 4.9 | 4.8 |
| Netherlands | 7.0 | 7.3 | 7.1 | 7.5 | 6.7 | 6.7 |
| Norway | 7.5 | 7.9 | 7.2 | 7.7 | 6.7 | 5.7 |
| Paraguay | 4.7 | 7.4 | 6.8 | 4.1 | 4.9 | 3.1 |
| Peru | 5.2 | 6.1 | 5.0 | 3.7 | 4.7 | 5.6 |
| Poland | 6.6 | 6.4 | 6.3 | 7.3 | 5.7 | 5.5 |
| Portugal | 6.4 | 6.9 | 6.4 | 7.3 | 5.2 | 6.6 |
| Republic of Korea | 6.4 | 6.1 | 6.1 | 6.5 | 5.4 | 5.2 |
| Slovenia | 6.1 | 6.5 | 6.4 | 7.1 | 5.3 | 4.8 |
| Spain | 7.2 | 7.1 | 6.7 | 7.6 | 5.2 | 5.8 |
| Sweden | 7.5 | 7.4 | 6.9 | 7.4 | 6.6 | 5.8 |
| Switzerland | 7.2 | 7.4 | 6.9 | 8.3 | 6.0 | 5.6 |

| Country/Group | Walking | Car as driver | Car as passenger | Public Transit | Cycling | Motorcycle (≤50) |
|---|---|---|---|---|---|---|
| United Kingdom | 7.2 | 7.1 | 6.9 | 7.4 | 5.2 | 4.5 |
| United States | 6.7 | 7.4 | 7.1 | 7.3 | 6.8 | 7.6 |
| Uruguay | 5.6 | 6.4 | 5.9 | 5.5 | 4.6 | 4.2 |
| Venezuela | 3.3 | 5.5 | 4.8 | 2.6 | 3.6 | 2.4 |
| LATAM mean | 5.2 | 6.8 | 6.1 | 4.5 | 4.8 | 4.8 |
| Europe mean | 7.0 | 7.1 | 6.7 | 7.6 | 6.0 | 5.6 |
| ESRA mean | 6.4 | 7.0 | 6.5 | 6.3 | 5.7 | 5.5 |

top five bottom five

*Notes:*
*(1) Subjective safety feeling is on a 11-point scale from 0 'very unsafe' to 10 'very safe'.*
*(2) The modes selected are based on the 'top 3' most frequently used.*
*(3) Individual country result is weighted by individual country weight; ESRA mean is by ESRA group weight; LATAM mean is by LATAM group weight; Europe mean is weighted by Europe group.*

For 'walking', the five countries with the highest scores are Northern and Western European countries – Denmark (8.3), Finland (7.9), Norway (7.5), Austria (7.5) and Germany (7.5). Five Latin American countries have the lowest scores – Mexico (5.1), Colombia (5.0), Paraguay (4.7), Guatemala (4.2), and Venezuela (3.3). An interesting point to note is that the scores of the Latin American countries are less than 6, and their results make up the bottom thirteen countries.

Driving has the narrowest score range – between 5.5 to 8.2; an interpretation is that, overall, road users feel quite safe driving a car. The countries with the highest scores are Denmark (8.2), Finland (7.8), Norway (7.9), Austria (7.9), and Germany (7.1); these are the same five countries in 'walking'. The countries with the five lowest scores are Czech Republic (6.1), Hungary (6.1), Israel (5.9), Republic of Korea (6.1), and Venezuela (5.5). The score for Venezuela stands out: its safety score is the lowest, and its usage level (41%) is also lowest among the national results of the 'top 3' most frequently used modes for driving.

Once again, Denmark (7.7), Finland (7.5), Norway (7.2), and Austria (7.1) are among the countries with the highest safety scores in 'car as passenger'; the Netherlands (7.1) rounds out the top five. Israel (5.6) and four Latin American countries – Argentina (5.8), Bolivia (5.5), Peru (5.0), and Venezuela (4.8) – have the lowest scores.

'Public transit' has the widest score range – from 2.4 to 8.4. Five Northern and Western European countries have the highest scores: Denmark (8.4), Austria (8.3), Finland (8.3), Switzerland (8.3), and Germany (8.0). On the other end, five Latin American countries have the lowest safety scores: Ecuador (4.4), Paraguay (4.1), Peru (3.7), Guatemala (2.4), and Venezuela (2.6). Furthermore, the 13 Latin American countries have the lowest thirteen scores for this mode.

'Cycling' is an alternative mode of transport that is developing in many ESRA1 countries; it is the fifth most popular mode of the 'top 3' most frequently used means of transport. Denmark (7.4), Finland (7.3), the US (6.8), the Netherlands (6.7), and Norway (6.7) have the five highest safety scores. Uruguay (4.6), Colombia (4.5), Bolivia (4.3), Guatemala (4.4), and Venezuela (3.6) have the lowest scores. It is not surprising that Denmark and the Netherlands appear in the top five; these countries are well known for their cycling infrastructure.

'Mopeds' are becoming popular in urban areas as road users search for a solution to the growing problem of traffic jams and a more efficient way to commute. Its safety scores range from 2.4 to 8.2; it is the second widest of all the modes presented in this section. The countries with the five highest safety

scores are Bolivia (8.2), Australia (7.2), the US (7.6), the Netherlands (6.7), and Canada (6.6). On the other hand, Costa Rica (4.2), Uruguay (4.2), Israel (4.1), Paraguay (3.1), and Venezuela (2.4).

A few inferences can be drawn from these results. Respondents from Denmark and Finland feel safe using the five most popular modes of transport – walk, drive, cycle, public transit, and be a car passenger. Austrian and Norwegian road users feel safe when walking, driving, and being a car passenger. On the other hand, road users from Latin American countries feel unsafe walking, driving, cycling, being a car passenger, and using public transit. Only Bolivian respondents feel safe riding motorcycle (≤50cc). The most striking scores are those of Venezuela; this country has the lowest safety scores in five of the six modes.

## 3.7 Enforcement

In this section, the following topics are discussed in relation to enforcement: alcohol, drugs, protective system (seatbelt), and speed. The ESRA1 Survey includes questions concerning respondents' opinions about the severity of penalties ('the penalties are too severe') and the enforcement of the traffic rules ('the traffic rules are not being checked sufficiently'). The answer choices are 'yes', 'no', or 'don't know/no response'. The rates presented in the following parts indicate the percentages of respondents who answered 'yes'.

### 3.7.1 Group results

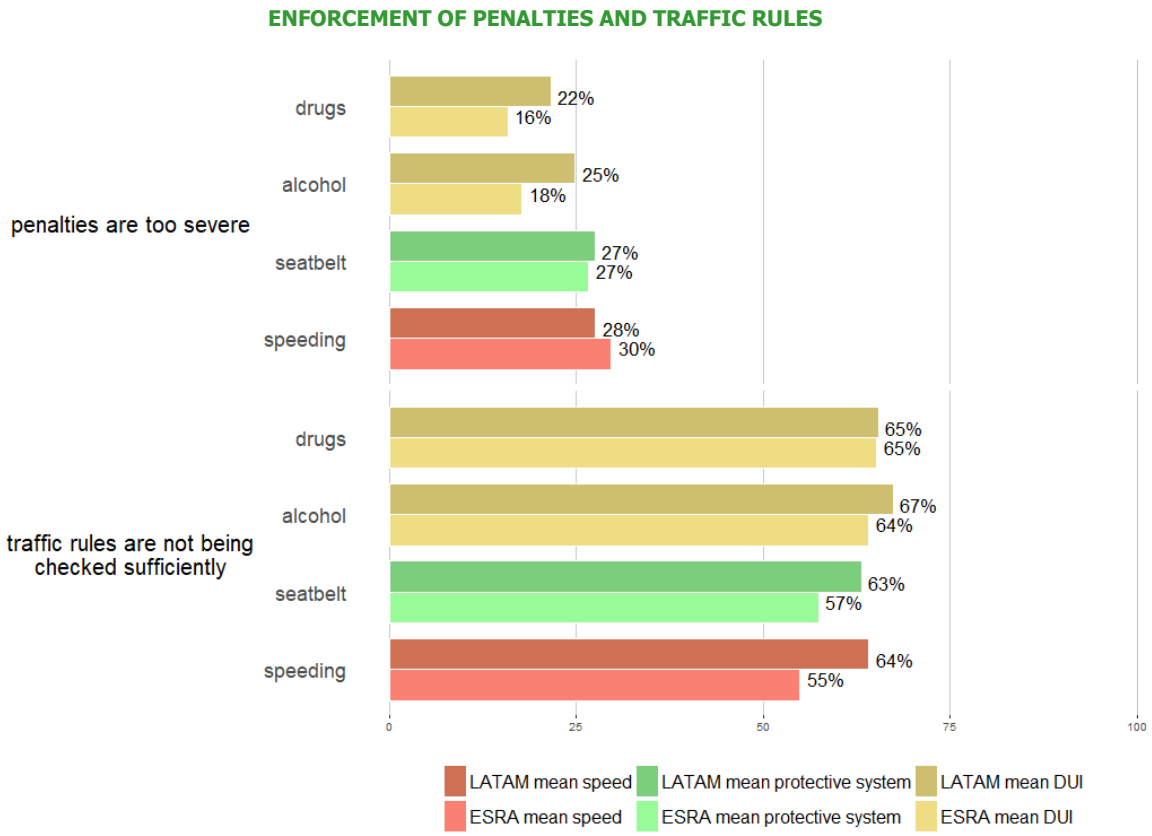


Figure 9: Opinion about enforcement of penalties and traffic rules by group

*Notes:*
*(1) The percentages refer to the answer 'yes', which indicate an agreement with statements about penalties and traffic rules.*
*(2) ESRA mean is weighted by ESRA group weight; LATAM mean is by LATAM group weight.*

Figure 9 presents the percentages of enforcement of penalties and traffic rules in ESRA and LATAM. Each topic is represented by a colour; the lighter colours indicate ESRA values, while the darker colours refer to LATAM countries. The opinions about enforcement of penalties and traffic rules do not differ very much between LATAM and ESRA, except for the statement that panelties for drugs and alcohol are too severe and the statement that traffic rules are not being checked sufficiently for speeding and for seatbelt use (protective system). More respondends from LATAM countries think that the penalties for drugs and alcohol are too severe and that the rules are not checked sufficiently for speeding and seatbelt use, compared to all respondends of the ESRA survey.

### 3.7.2 National results

The enforcement of traffic rules and the issue of penalties differ quite considerably across countries. However, the Breathalyzer test has become a universal tool for controlling DUI involving alcohol in law enforcement in many parts of the world. Therefore, the examination of the national rates will concentrate on 'alcohol check with a Breathalyzer test on a typical journey'.

Figure 10 shows the percentages of each country, Europe mean, LATAM mean, and the overall ESRA mean. The Europe mean is the lowest; the overall ESRA mean is in the middle; the LATAM mean is the highest. In general, the results are geographically mixed. Countries with smaller percentages than the

ESRA mean are mostly European countries, the US, and three LATAM countries (Brazil, Costa Rica, and Venezuela). Countries with bigger percentages than the LATAM mean are Australia, three European countries (France, Slovenia, and Poland), Republic of Korea, and eight Latin American countries (Argentina, Bolivia, Chile, Colombia, Ecuador, Mexico, Peru, and Paraguay). The rates indicate that drivers – in Poland (44.4%), Paraguay (40.0%), Mexico (34.2%), Ecuador (33.2%), Republic of Korea (33.0%), and Australia (31.7%) – have a higher chance of being controlled with a Breathalyzer on a typical journey than those – in Denmark (2.0%), Finland (4.1%), Israel (8.0%), the UK (9.2%), and Ireland (9.5%).

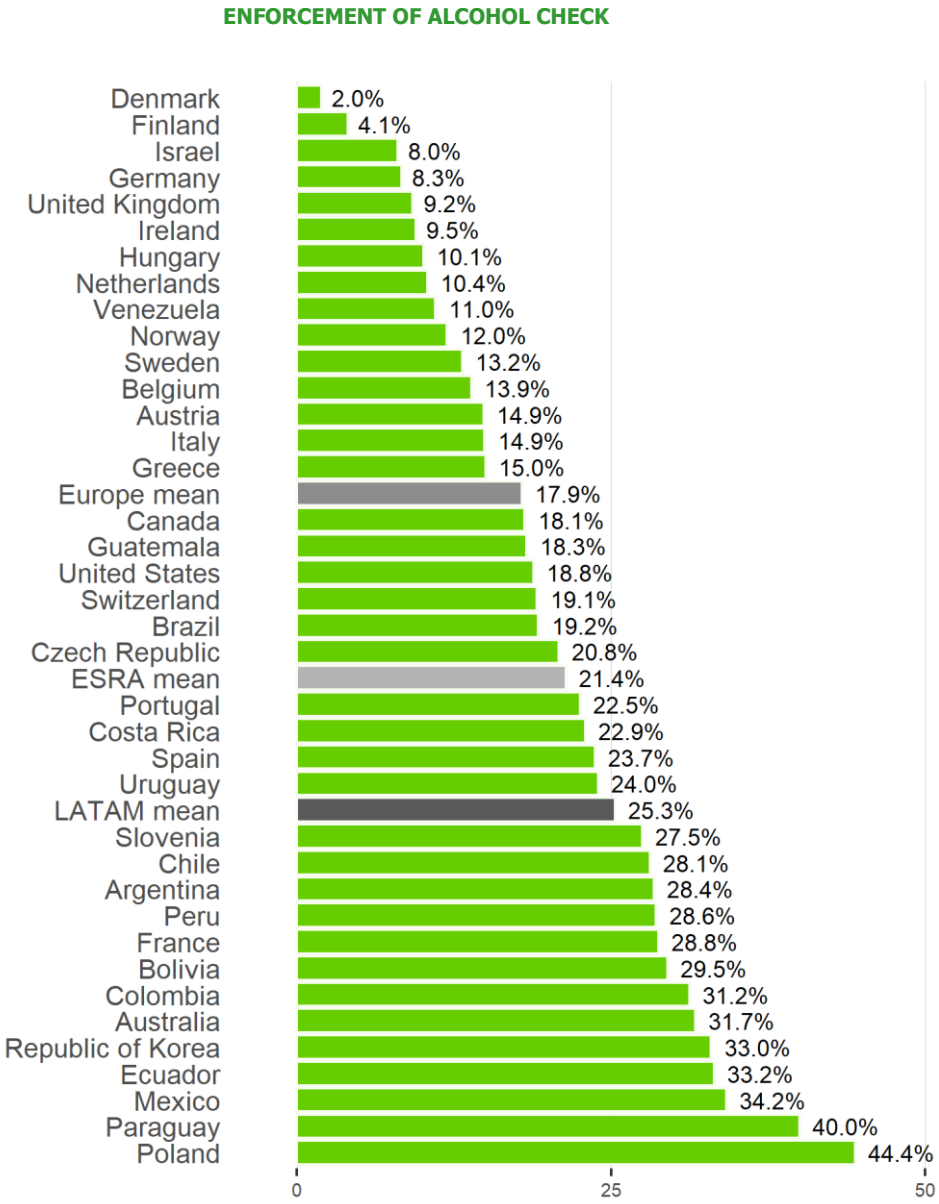


Figure 10: Estimation of likelihood of being checked for alcohol on a typical journey per country and group

*Notes:*

*(1) The percentages represent scores 4 (big chance) and 5 (very big chance) on a 5-point scale from 1 'very small chance' to 5 'very big chance'; they indicate the likelihood of being checked by the police with a Breathalyzer test.*

*(2) Individual country result is weighted by individual country weight; ESRA mean is by ESRA group weight; LATAM mean is by LATAM group weight; Europe mean is weighted by Europe group weight.*

## 3.8 Support for policy measures

The questions in ESRA1 survey cover support for policy measures to reduce the number of incidents of cycling without a helmet, driving while using a phone, and driving under the influence of alcohol (as new drivers, experienced drivers, and repeated offenders). The topics of focus for this subsection are distraction, DUI involving alcohol, and protective system. The answer options are 'support', 'oppose', and 'no opnion'. The rates in the figure and table of this subsection represent the number of respondents who answered 'support'.

### 3.8.1 Group results

Figure 11 shows rates of support for a range of policy measures: 'zero tolerance for using phone while driving (hand-held/hands-free) for all drivers', 'zero tolerance for DUI for alcohol for all drivers', 'law requiring all cyclists to wear helmet', 'installation of 'interlock' for DUI recidivist', and 'zero tolerance for DUI alcohol for drivers (licence < 2y)'. The lighter colours correspond to the overall ESRA means, and the darker colours represent the LATAM means.

For measures relating to driving after consuming alcohol, the percentages of support are higher in LATAM countries than the overall ESRA picture. The support for these policies is in line with the high percentages of enforcement for DUI involving alcohol in many Latin American countries at the group and national levels; the biggest difference between LATAM and the overall ESRA is for 'zero tolerance for DUI alcohol for all drivers'.

Even though cycling is the fifth most popular mode of transport in LATAM countries, the support for a law requiring cyclists to wear helmet is very high. A possible explanation is that this could be related to the high percentages of concern for road crashes in Latin American countries.

Finally, the least supported policy of the five represented is 'zero tolerance for using phone while driving (hand-held/hands-free) for all drivers'. The support for this countermeasure is much higher in LATAM than in ESRA in general. This is likely due to the high percentages of risk perception among Latin American countries regarding this distracting behaviour.

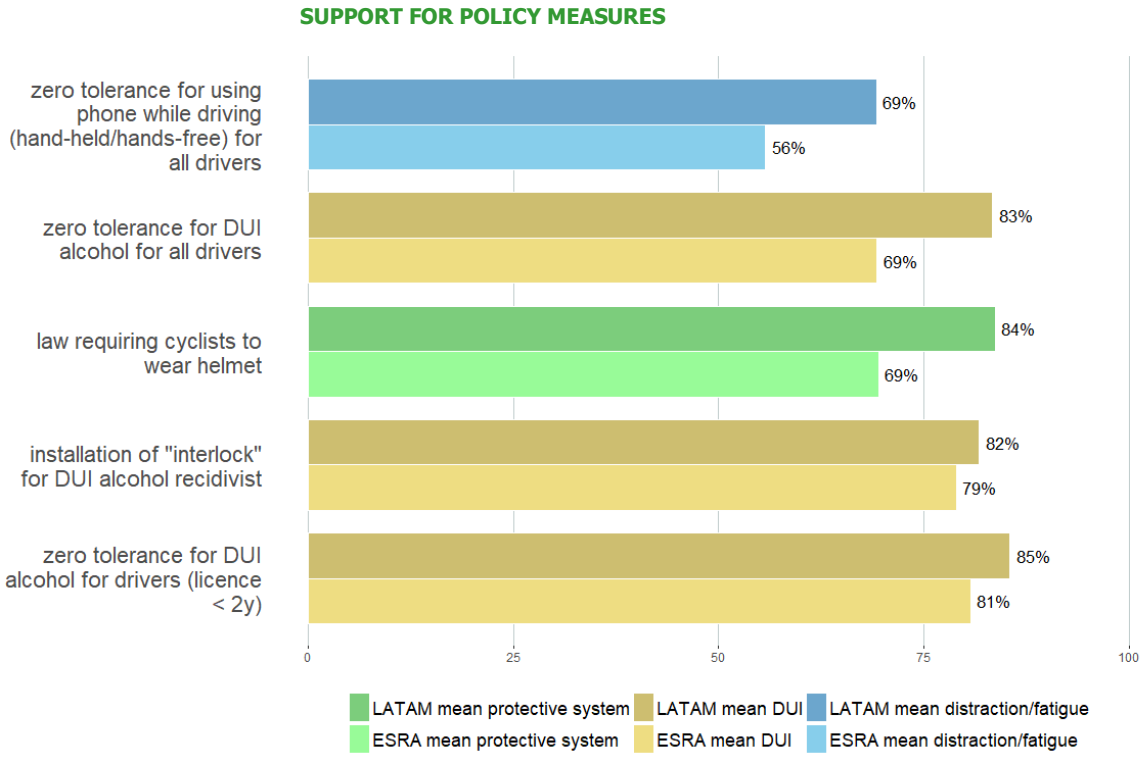


Figure 11: Support for policy measures

*Notes:*
*(1) The percentages represent 'support' for policy measures.*
*(2) ESRA mean is weighted by ESRA group weight; LATAM mean is by LATAM group weight.*

## 3.8.2 National results

Table 9 shows the rates for support of selected policy measures at the national level; these are the same countermeasures that have been analysed at the group level in the previous section. For each measure, the top five percentages are highlighted in light purple, and the bottom five are represented by light brown.

Table 9: Support of policy measures per country and group (top five, bottom five)

| Country/Group | alcohol inter-lock for reci-vidists | zero tolerance for alcohol for novice driv-ers(<2yr) | zero tolerance for alcohol for all drivers | zero tolerance for using phone while driving | law requiring cyclists wear helmet |
|---|---|---|---|---|---|
| Argentina | 85% | 86% | 81% | 71% | 78% |
| Australia | 80% | 83% | 51% | 61% | 80% |
| Austria | 64% | 86% | 52% | 36% | 51% |
| Belgium | 80% | 83% | 58% | 45% | 46% |
| Bolivia | 92% | 86% | 84% | 76% | 92% |
| Brazil | 72% | 88% | 83% | 70% | 78% |
| Canada | 83% | 83% | 62% | 60% | 69% |
| Chile | 90% | 87% | 88% | 61% | 88% |

| Country/Group | alcohol interlock for recividists | zero tolerance for alcohol for novice drivers(<2yr) | zero tolerance for alcohol for all drivers | zero tolerance for using phone while driving | law requiring cyclists wear helmet |
|---|---|---|---|---|---|
| Colombia | 89% | 83% | 88% | 62% | 91% |
| Costa Rica | 93% | 86% | 83% | 66% | 94% |
| Czech Republic | 76% | 90% | 74% | 35% | 59% |
| Denmark | 84% | 68% | 48% | 38% | 44% |
| Ecuador | 89% | 80% | 83% | 68% | 91% |
| Finland | 94% | 71% | 52% | 28% | 45% |
| France | 74% | 73% | 50% | 55% | 53% |
| Germany | 63% | 87% | 63% | 42% | 44% |
| Greece | 85% | 77% | 60% | 55% | 79% |
| Guatemala | 94% | 89% | 85% | 67% | 92% |
| Hungary | 86% | 85% | 80% | 49% | 50% |
| Ireland | 82% | 79% | 68% | 57% | 75% |
| Israel | 84% | 89% | 77% | 57% | 82% |
| Italy | 89% | 76% | 50% | 30% | 81% |
| Mexico | 84% | 83% | 80% | 71% | 86% |
| Netherlands | 70% | 84% | 71% | 47% | 19% |
| Norway | 78% | 77% | 68% | 48% | 63% |
| Paraguay | 93% | 87% | 84% | 70% | 93% |
| Peru | 93% | 87% | 90% | 72% | 91% |
| Poland | 82% | 80% | 71% | 43% | 50% |
| Portugal | 72% | 78% | 57% | 43% | 78% |
| Republic of Korea | 81% | 73% | 80% | 56% | 71% |
| Slovenia | 76% | 87% | 54% | 45% | 54% |
| Spain | 80% | 82% | 71% | 54% | 71% |
| Sweden | 84% | 79% | 72% | 43% | 50% |
| Switzerland | 64% | 79% | 49% | 41% | 61% |
| United Kingdom | 78% | 77% | 64% | 61% | 72% |
| United States | 78% | 76% | 63% | 51% | 64% |
| Uruguay | 86% | 82% | 77% | 68% | 78% |
| Venezuela | 90% | 82% | 84% | 68% | 94% |
| LATAM mean | 82% | 85% | 83% | 69% | 84% |
| Europe mean | 77% | 80% | 61% | 46% | 59% |
| ESRA mean | 79% | 81% | 69% | 56% | 69% |

top five bottom five

*Notes:*
*(1) The percentages represent 'support' for policy measures.*
*(2) Individual country result is weighted by individual country weight; ESRA mean is by ESRA group weight; LATAM mean is by LATAM group weight; Europe mean is weighted by Europe group.*

The policy measure 'alcohol interlock for recidivists' indicates that drivers having been caught repeatedly driving under the influence of alcohol must install a lock to prevent the engine from starting when the

blood alcohol level is above the legal limit. Finland (94%) and four Latin American countries – Costa Rica (93%), Guatemala (94%), Paraguay (93%), and Peru (93%) – have the top five percentages for this measure. On the other end, the lowest percentage of support for this policy are found in five Western European countries – Austria (64%), Germany (63%), Netherlands (70%), Portugal (72%), and Switzerland (64%).

In order to promote good driving practice and prevent recidivism, DUI involving alcohol must be dealt with in a strict manner among new drivers. The countermeasure 'zero tolerance for alcohol for novice drivers (< 2y)' aims to instil in new drivers – licenced less than 2 years – the norm of operating a vehicle without the influence of alcohol. Czech Republic (90%), Israel (89%), and three Latin American countries – Brazil (88%), Guatemala (89%), and Paraguay (87%) – have the five highest percentages of support for this measure. Republic of Korea (73%) and four Western European countries – Demark (68%), Finland (71%), France (73%), and Italy (76%) – round out the bottom five. The Czech Republic stands out among its ESRA1 peers; it has 11% in self-declared behaviour for driving after consuming alcohol. An inference is that Czech drivers, especially the neophytes, have a lower chance of committing DUI involving alcohol than those of other ESRA1 countries.

'Zero tolerance for alcohol for all drivers' is a policy measure that expresses the intolerance of society towards drunk driving at any level of experience. This also seeks to cultivate the good practice of driving without the influence of alcohol throughout the lifetime of a driver. Chile (88%), Colombia (88%), Guatemala (85%), Paraguay (84%), and Peru (90%) are five Latin American countries where the support is the highest. The five countries with the lowest support are Australia (51%) and four European countries – Denmark (48%), France (50%), Italy (50%), and Switzerland (49%). A country to highlight is Denmark; this country appears among the bottom five in countermeasures for novice drivers and all drivers. In addition, only 1% of Danish respondents personally find DUI involving alcohol acceptable, but they also reported the least likely to be checked for DUI on a typical journey. From these results, an inference is that there seems to be little enforcement and support for the control of drunk driving in Denmark.

Distraction by portable telecommunication devices has become more problematic in the last few years; society has become less tolerant of these inattentive drivers. 'Zero tolerance for using phone while driving' is a (potential) measure that attempts to reduce injuries and fatalities due to this type of distracted drivers. Five Latin American countries – Argentina (71%), Bolivia (76%), Mexico (71%), Paraguay (72%), and Peru (72%) – have the five highest level of public support. The lowest support is found in European countries – Austria (36%), Czech Republic (35%), Denmark (38%), Finland (28%), and Italy (30%).

Policy measures for cyclists are being discussed and implemented across the world, in order to reduce injuries for these users. One such (possible) countermeasure is a 'law requiring cyclists to wear helmet'. The five countries with the highest support are five Latin American countries – Bolivia (92%), Costa Rica (94%), Guatemala (92%), Paraguay (93%), and Venezuela (94%). The least supportive countries are European countries – Belgium (46%), Denmark (44%), Finland (45%), Germany (44%), and the Netherlands (19%). It is interesting to note that the Netherlands and Denmark are among the countries that are least supportive of these policy measures, despite the high numbers of cyclists.

## 3.9 Limitations of ESRA1 survey

As shown in this chapter the ESRA1 survey provides a unique data set of road users' opinions, attitudes, and behaviour in relation to road safety. The total sample size consists of 38,738 road users from 38 countries. The information is recent (2015-2017), reliable and comparable across countries. Therefore,

the results can form the basis for benchmarking road safety culture in a regional and global perspective. Still, lessons for future editions can be learned from this first one[4].

Firstly, having a standardised methodology and sampling procedure in all participating countries is essential for obtaining fully comparable and reliable data (e.g. De Leeuw et al., 2008). Although this was clearly anticipated in ESRA a few issues arose. For instance, some national market research companies used three age categories and others use six during sampling. In Latin American countries the highest age group was limited to 69 years of age, as a representative sample including respondents of a higher age was not visible in these countries. Furthermore, each market research compay (iVOX, GfK, Punto de Fuga) programmed the questionnaire for the countries for which they were responsible. We controlled the programming, but minor differences might not have been caught. In Italy the field work was carried out seperatly. To reach the target of 1,000 respondents, data collection in Italy took place online combined with telephone interviews. In order not to mix methods the latter were not included in the presented analyses. Moreover, in Slovenia a minor error in the translation occurred for some items. For these reasons, Italy and Slovenia had to be excluded from a few questions.

Secondly, survey research is fraught with general response tendencies and biases, and this is especially true in cross-national studies (see e.g., Tellis & Chandrasekaran, 2010; Lajunen, Corry, Summala, & Hartley, 1997). These biases might lead to erroneous conclusions (i.e., confusing differences in SDR with genuine differences in the measured trait). Indeed, our ESRA data revealed differences in general response tendencies between countries on several questions. For example, Denmark is by trend one of the least concerned country across different societal problems, whereas Greece and Portugal among the most concerned countries. Unfortunately, the current ESRA questionnaire did not include a social desirability scale. Thus, caution is needed when interpreting the results.

Thirdly, some questions were excluded from the current analyses for various reasons. For example, exposure data (Q8 in the questionnaire; Appendix 1) have not been analysed at this point. Also, parts of the question regarding crash involvement (Q21b in the questionnaire; Appendix 1) referred to incidents and were excluded from the current analyses. Moreover, in the UK and the US km/h was adapted to miles/h, but lacking the conversion of the actual number of kilometres resulted in differences between these items (e.g., 10 miles/h equals 16 km/h). This might explain UK and US results on those items.

Finally, as highlighted in this section, some improvements are to be made when envisioning a second edition of the ESRA survey in 2018. A core set of questions will be retained in every survey allowing comparisons and the development of time series of road safety performance indicators. If deemed appropriate new questions could be added and some of the existing ones may be modified or removed in view of obtaining a higher response quality. This will be a joint decision of all participating organisations.

[4] *The list of issues presented here is not exhaustive.*

# 4 Conclusions and recommendations

## 4.1 Achievement of the initial objectives

When Vias institute (formerly called the Belgian Road Safety Institute) launched the ESRA initiative in 2015, the initial aim was to develop a cost-effective method for gathering reliable information on road users' attitudes and performance in a range of European countries. An important prerequisite was that the data collected could be a base for road safety performance indicators that were fully comparable across countries. It was initially expected that about ten countries might join the initiative. From the outset, there was the expectation that ESRA might be of sufficient interest to attract additional countries at a later stage.

It can safely be stated that these initial objectives have been achieved and even exceeded. Within a period of only two and a half years, this European initiative grew to a global survey across 38 countries. The questionnaire was translated into 33 country-language versions; information on almost 40,000 road users was gathered within one database. Furthermore, the number of countries participating is expected to grow further in the next edition (ESRA2). Several international organisations and associations active in the field of road safety have expressed interest in ESRA; they are considering or actually using the ESRA outcomes in their activities and publications.

Three overall reports, six in-depth thematic reports, 25 country fact sheets, and a growing number of scientific articles have been published within two and a half years after the initiative was launched. This is a remarkable achievement, which results from the enthusiastic commitment, flexibility, and cooperative attitude of the 26 participating organisations.

## 4.2 Sixteen highlights from the first ESRA survey

The dataset of ESRA1 includes almost 40,000 records with each over 200 variables. Therefore, the results that have been presented in this report are only a fraction of the insights that can be gained by analysing ESRA data.

With so many results available, it is difficult to identify the most interesting findings. Nevertheless, the table below presents some of the highlights emerging from this report, in particular when comparing Latin American (LATAM) and European (Europe) countries.

### Sixteen highlights of the ESRA1 survey

#### Concern about road safety

1. Latin American road users are more concerned about road accidents than European road users, which mirrors the higher fatality rates in these countries compared to those in Europe.

#### Modes of transport

2. The transport modes used most often in the countries participating in ESRA1 are 'walking', 'car as driver', 'car as passenger', and 'public transport'.
3. Cycling is less practiced in Latin American compared to European. Only 15% of the Latin American road users state that this is one of their 'top 3' transport modes, while the rate is 22% in Europe. The Netherlands has 52% for this mode – the highest among the 38 countries.

#### Self-declared traffic behaviour

4. Speeding is a major problem in all ESRA participating countries. Speeding on highways for example, is reported by 68% of the drivers in the ESRA survey (Europe mean: 73%; LATAM mean: 56%).
5. The unsafe traffic behaviour that is reported most often in Latin American countries is being too tired to drive. 67% of the Latin American drivers report that they have driven a car while realizing that they were actually too tired to drive during the last year (Europe mean: 60%; ESRA mean 62%).
6. The biggest difference between Latin American and European respondents is observed for wearing a seat belt as back seat passenger. Only 39% of the Latin American road users always wear a seat belt as passengers in the back of the car, compared to 62% in Europe (ESRA mean: 52%).

**Acceptability of unsafe traffic behaviour**

7. The (un)acceptability of some unsafe traffic behaviours among Latin American road users is very similar to that of European and other ESRA countries' road users, except for speeding.
8. The biggest difference between Latin American and European respondents is observed for the acceptability of speeding offences. Only 19% of the Latin American respondents think that speeding on a motorway is acceptable, for European respondents the figure is 33%. This rate for Europe is in line with the higher prevalence of speeding offences on motorways among European drivers compared to Latin American drivers.

**Subjective safety**

17. Road users in Latin American countries feel less safe in traffic than European road users. Danish and Finnish people feel the safest and Venezuelans the least safe.
18. In Europe, using public transport is considered to be a very safe transport mode. But more than half of the Latin American respondents think that using public transport is rather unsafe.

**Enforcement**

9. Almost 70% of all respondents feel that traffic rules are not being enforced sufficiently for alcohol and drugs.
10. Almost 20% of all road users feel that penalties for alcohol and drugs are too severe.
11. The level of enforcement with respect to drink driving varies considerably by country. Only 2% of the Danish drivers report alcohol checks on a typical day, compared to 44% of the Polish drivers.

**Support for policy measures**

12. Around 80% of the ESRA respondents support a zero tolerance approach to drink-driving for novice drivers and the installation of an alcohol interlock for recidivists.
13. Respondents in Latin American countries show in general (across all topics) a higher support for road safety policy measures than those in European countries.
14. In the Netherlands, the country with the highest self-declared rate of cycling, the support for a law requiring cyclists to wear a helmet is low. Only 19% of the Dutch respondents support this measure, while 69% of the overall ESRA population is in favour of it (Europe mean: 59%; LATAM mean 84%).

## 4.3 Recommendations for the further development of ESRA

The ESRA project has demonstrated the feasibility of establishing a set of reliable road safety performance indicators that are comparable across countries. It is currently envisaged to conduct the second version of ESRA in 2018 – and then repeat the survey on a triennial basis. This will lead to a unique set of road safety performance indicators for an increasing number of countries across the world.

In order to achieve this, it is recommended to maintain the essence of the current approach for the next editions of ESRA: i.e.

4. Use a representative sample (N=1,000) of the population of all the countries participating (although this requirement may be adapted for (very) big/small countries).
5. Undertake the field work by using online panel services who can guarantee a representative sample of the population (this is the most cost-efficient approach).
6. Use a common questionnaire[5], translated into the national languages, for all the countries participating (to ensure comparability and correct interpretation of the results).
7. Have one organization coordinating and managing all activities, with a core group of partners combining their resources and expertise to analyse the main ESRA results.
8. Continue the involvement of local research organisations or institutes with considerable road safety knowledge in every country (to assure the quality of the translations and a meaningful interpretation of the national results and to verify the results based on other national sources).

Yet, in particular the expected expansion towards other countries make it clear that a reflection is needed about the future development of ESRA. The following recommendations with respect to future developments emerge from the analyses in this report:

9. Make the ESRA data available to regional, national, and international road safety observatories, to ensure that road safety performance indicators produced by ESRA are used to inform and support policy making at regional, national, and international levels.
10. Use the ESRA data as a base for road safety performance indicators that can be used at international level.
11. Contribute to the definition of medium and long-term targets for these performance indicators.

It is also recognised that there is a growing number of low and middle-income countries – as well as regions and cities – that could also benefit from joining ESRA. Such extensions will require the ESRA network to address three important questions: (1) the feasibility to use internet access panels in certain countries to obtain a representative sample of the adult population and the need or possibility for developing alternative approaches to data gathering; (2) the full applicability of the current questions in the context of low and middle income countries; and (3) the feasibility to include some questions that differ across countries, while maintaining the underlying database structure (provides the national partner the opportunity to also include one or two national specific questions).

[5] *with a centralized common programming of the questions*

# List of tables and figures

# ESRA1 publications

**Main reports**

Meesmann, U., Torfs, K., Nguyen, H., & Van den Berghe, W. (2017). *Do we care about road safety? Key findings from the ESRA1 project in 38 countries.* ESRA project (European Survey of Road users' safety Attitudes). Brussels, Belgium: Vias institute.

Meesmann, U., Torfs, K., & Van den Berghe, W. (2017). The ESRA-project: Synthesis of the main findings from the 1st ESRA survey in 25 countries. ESRA project (E-Survey of Road users' Attitudes). Brussels, Belgium: Belgian Road Safety Institute.

Torfs. K., Meesmann, U., Van den Berghe, W., & Trotta, M. (2016). ESRA 2015 – The results. Synthesis of the main findings from the ESRA survey in 17 countries. ESRA project (European Survey of Road users' safety Attitudes). Brussels, Belgium: Belgian Road Safety Institute.

**Six thematic reports (2015)**

Yannis, G., Laiou, A., Theofilatos, A., & Dragomanovits, A. (2016). *Speeding. ESRA thematic report no. 1.* ESRA project (European Survey of Road users' safety Attitude). Athens, Greece: National Technical University of Athens.

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Trigoso J., Areal A., & Pires C. (2016). *Distraction and fatigue. ESRA thematic report no. 3.* ESRA project (European Survey of Road users' safety Attitudes). Lisbon, Portugal: Prevenção Rodoviária Portuguesa.

Trotta, M., Meesmann, U., Torfs. K., Van den Berghe, W., Shingo Usami, D., & Sgarra, V. (2016). *Seat belt and child restraint systems. ESRA thematic report no. 4.* ESRA project (European Survey of Road users' safety Attitudes). Brussels, Belgium: Belgian Road Safety Institute.

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Buttler, I. (2016). *Enforcement and support for road safety policy measures. ESRA thematic report no. 6.* ESRA project (European Survey of Road users' safety Attitudes). Warschau, Poland: Instytutu Transportu Samochodowego.

**Country fact sheets (2015 + 2016)**

2015: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, and United Kingdom;

2016: Australia, Canada, Czech Republic, Hungary, Israel, Republic of Korea, Norway, and United States of America.

All these publications are available on www.esranet.eu. Furthermore, the results have been presented in scientific articiles and national reports, and are presented at international conferences, including such as: TRA, TRB, DDI, RSS, AustralAsian conference, AROSO conference, IRTAD conference, ETSC conference, RS5C etc.

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[6] *Available in Dutch, French and German*

# Appendix 1: Specifications on data collection per country

Table 10: Specifications on data collection per country

| Country | Age groups quota | Sample size (total) | Field dates (2015) | Market research partner | National panel provider | Languages | Average LOI (minutes) | Internet users* (per 100 people) |
|---|---|---|---|---|---|---|---|---|
| Argentina | 3 | 999 | 13/07 - 24/07/2017 | Punto de Fuga | CINT | Spanish (South America) | 23 | 69% |
| Australia | 3 | 1,002 | 8/12 - 17/12/2017 | GfK | CINT | English (AU) | 20 | 85% |
| Austria | 6 | 1,019 | 22/06 – 03/07/2015 | iVOX | Research Now | German (AT) | 22 | 84% |
| Belgium | 3 | 1,000 | 17/06 – 25/06/2015 | iVOX | iVOX | Dutch (BE) French (BE) | 21 | 85% |
| Bolivia | 3 | 522 | 21/07 - 21/08/2017 | GfK | GfK | Spanish (South America) | 31 | 45% |
| Brazil | 3 | 987 | 13/07 - 18/07/2017 | Punto de Fuga | CINT | Portuguese (BR), | 22 | 59% |
| Canada | 3 | 1,059 | 28/09 - 10/10/2016 | GfK | CINT | English (CA) | 19 | 88% |
| Chile | 3 | 1,004 | 13/07 - 24/07/2017 | Punto de Fuga | CINT | Spanish (South America) | 25 | 64% |
| Colombia | 3 | 998 | 13/07 - 18/07/2017 | Punto de Fuga | CINT | Spanish (South America) | 26 | 56% |
| Costa Rica | 3 | 1,025 | 21/07 - 21/08/2017 | GfK | GfK | Spanish (South America) | 27 | 60% |
| Czech Republic | 3 | 1,164 | 21/09 - 03/10/2016 | iVOX | iVOX | Czech (CZ) | 25 | 81% |
| Denmark | 3 | 1,077 | 02/06 – 03/07/2015 | iVOX | Norstat | Danish (DK) | 23 | 96% |
| Ecuador | 3 | 1,001 | 21/07 - 15/08/2017 | GfK | GfK | Spanish (South America) | 27 | 49% |
| Finland | 3 | 1,016 | 02/06 – 30/06/2015 | iVOX | Norstat | Finnish (FI) | 23 | 93% |
| France | 6 | 1,000 | 29/06 – 14/07/2015 | iVOX | Research Now | French (FR) | 18 | 85% |
| Germany | 3 | 999 | 17/06 – 30/06/2015 | iVOX | Bilendi | German (DE) | 21 | 88% |
| Greece | 3 | 1,113 | 03/06 – 03/07/2015 | iVOX | The Hellenic Research House | Greek (EL) | 24 | 67% |
| Guatemala | 3 | 1,042 | 21/07 - 20/08/2017 | GfK | GfK | Spanish (South America) | 27 | 27% |
| Hungary | 3 | 1,255 | 28/09 - 05/10/2016 | iVOX | iVOX | Hungarian (HU) | 25 | 73% |
| Ireland | 3 | 999 | 22/06 – 03/07/2015 | iVOX | Research Now | English (IE) | 20 | 80% |
| Israel | 3 | 1,316 | 27/09 - 02/10/2017 | iVOX | Panelview | Hebrew (IL), English (IL) | 22 | 79% |
| Italy | 3 | 837 (1,050) | 06/06 – 25/09/2015 | iVOX | CTL | Italian (IT) | 21 (25) | 66% |

| Country | Age groups quota | Sample size (total) | Field dates (2015) | Market research partner | National panel provider | Languages | Average LOI (minutes) | Internet users* (per 100 people) |
|---|---|---|---|---|---|---|---|---|
| Mexico | 3 | 993 | 13/07 - 24/07/2016 | Punto de Fuga | CINT | Spanish (MX) | 23 | 57% |
| Netherlands | 3 | 1,106 | 04/06– 23/06/2015 | iVOX | Panel Inzicht | Dutch (NL) | 21 | 93% |
| Norway | 3 | 1,004 | 13/12 - 27/12/2016 | GfK | SSI | Norwegen (NO) | 20 | 97% |
| Paraguay | 3 | 532 | 21/07 - 21/08/2017 | GfK | GfK | Spanish (South America) | 29 | 51% |
| Peru | 3 | 998 | 21/07 - 04/08/2017 | GfK | GfK | Spanish (South America) | 28 | 41% |
| Poland | 6 | 1,085 | 22/06 – 14/07/2015 | iVOX | MarketAgent | Polish (PL) | 22 | 68% |
| Portugal | 3 | 1,028 | 05/06 – 07/07/2015 | iVOX | Netquest | Portuguese (PT) | 23 | 69% |
| Republic of Korea | 3 | 1,007 | 28/09 - 13/10/2016 | GfK | CINT | Korean (KR) | 18 | 90% |
| Slovenia | 6 | 1,002 | 22/06 – 12/07/2015 | iVOX | MarketAgent | Slovenian (SI) | 22 | 73% |
| Spain | 3 | 1,021 | 29/06 – 22/07/2015 | iVOX | Research Now | Spanish (ES) | 21 | 79% |
| Sweden | 6 | 1,297 | 02/06 – 22/06/2015 | iVOX | Research Now | Swedish (SE) | 21 | 91% |
| Switzerland | 6 | 1,000 | 17/06 – 01/07/2015 | iVOX | Bilendi | German (CH) French (CH) Italian (CH) | 22 | 89% |
| United Kingdom | 6 | 1,162 | 22/06 – 06/07/2015 | iVOX | Research Now | English (UK) | 17 | 92% |
| United States | 3 | 1,075 | 28/09 - 05/10/2016 | GfK | CINT | English (US) | 19 | 75% |
| Uruguay | 3 | 997 | 13/07 - 24/07/2017 | Punto de Fuga | CINT | Spanish (South America) | 25 | 65% |
| Venezuela | 3 | 997 | 19/07 - 24/07/2017 | Punto de Fuga | CINT | Spanish (South America) | 26 | 62% |
| TOTAL | | 38,738 | | | | | | |

*Notes:*
*(1) All countries (except Italy[3]) used an online panel with quota sampling (age*gender) while geographical distribution was monitored. In the common ESRA analyses only the online data from Italy were included. In the table the total sample size of the Italian data, including the telephone interviews, are indicated between brackets.*
*(2) Either three or six age groups were used for quota: 3 age groups = 18-34y, 35-54y and 55+; 6 age groups = 18-24y, 25-34y, 35-44y, 45-54y, 55-64y and 65+; in LATAM countries the higherst age group was 55-69y.*
*(3) *source: United Nations Statistics Division, 2017*

# Appendix 2: Dichotomised variables per country/group

## Table 11: How concerned are you about each of the following issues?

You can indicate your answer on a scale from 1 to 4, where 1 is 'very concerned' and 4 is 'not at all concerned'. The numbers in between can be used to refine your response. => % concerned (score 1-2)

| Country/Group | Rate of crime | Pollution | Road accidents | Standard of health care | Traffic congestion | Unemployement |
|---|---|---|---|---|---|---|
| Argentina | 94% | 80% | 85% | 87% | 61% | 86% |
| Australia | 76% | 77% | 81% | 82% | 73% | 77% |
| Austria | 76% | 84% | 61% | 47% | 49% | 78% |
| Belgium | 80% | 79% | 78% | 77% | 68% | 70% |
| Bolivia | 84% | 81% | 81% | 85% | 76% | 81% |
| Brazil | 94% | 89% | 91% | 91% | 80% | 87% |
| Canada | 69% | 72% | 72% | 79% | 64% | 67% |
| Chile | 91% | 91% | 85% | 90% | 73% | 82% |
| Colombia | 92% | 92% | 83% | 86% | 82% | 82% |
| Costa Rica | 88% | 87% | 87% | 80% | 85% | 86% |
| Czech Republic | 87% | 82% | 82% | 74% | 63% | 63% |
| Denmark | 55% | 60% | 48% | 65% | 27% | 44% |
| Ecuador | 84% | 87% | 87% | 80% | 74% | 86% |
| Finland | 72% | 70% | 65% | 68% | 32% | 77% |
| France | 80% | 85% | 76% | 81% | 67% | 79% |
| Germany | 75% | 78% | 60% | 46% | 51% | 57% |
| Greece | 90% | 88% | 89% | 91% | 79% | 90% |
| Guatemala | 91% | 90% | 81% | 83% | 86% | 86% |
| Hungary | 78% | 84% | 72% | 85% | 59% | 69% |
| Ireland | 79% | 76% | 81% | 86% | 68% | 79% |
| Israel | 79% | 74% | 90% | 72% | 77% | 64% |
| Italy | 65% | 68% | 67% | 66% | 61% | 62% |

| Country/Group | Rate of crime | Pollution | Road accidents | Standard of health care | Traffic congestion | Unemployement |
|---|---|---|---|---|---|---|
| Mexico | 94% | 90% | 83% | 90% | 81% | 85% |
| Netherlands | 67% | 62% | 59% | 74% | 44% | 68% |
| Norway | 72% | 64% | 70% | 83% | 60% | 65% |
| Paraguay | 92% | 87% | 90% | 88% | 86% | 80% |
| Peru | 92% | 90% | 88% | 89% | 83% | 81% |
| Poland | 71% | 71% | 71% | 82% | 73% | 73% |
| Portugal | 86% | 87% | 86% | 87% | 64% | 89% |
| Republic of Korea | 59% | 70% | 71% | 57% | 67% | 69% |
| Slovenia | 67% | 73% | 74% | 69% | 58% | 84% |
| Spain | 71% | 79% | 75% | 81% | 54% | 86% |
| Sweden | 71% | 67% | 49% | 69% | 31% | 58% |
| Switzerland | 72% | 82% | 65% | 44% | 59% | 66% |
| United Kingdom | 70% | 66% | 67% | 77% | 68% | 66% |
| United States | 80% | 75% | 78% | 81% | 66% | 70% |
| Uruguay | 89% | 76% | 85% | 77% | 49% | 77% |
| Venezuela | 96% | 82% | 72% | 86% | 64% | 84% |
| LATAM mean | 93% | 88% | 86% | 89% | 78% | 85% |
| Europe mean | 73% | 75% | 69% | 70% | 60% | 70% |
| ESRA mean | 81% | 79% | 77% | 79% | 68% | 75% |

Table 12: Where you live, how acceptable would most other people say it is for a driver to...? Part 1

You can indicate your answer on a scale from 1 to 5, where 1 is 'unacceptable' and 5 is 'acceptable'. The numbers in between can be used to re-fine your response. => % acceptable (score 4-5)

| Country/Group | drive 20 km per hour over the speed limit on a freeway / motorway? | drive 20 km per hour over the speed limit on a residential street? | drive 20 km per hour over the speed limit in an urban area? | talk on a hand-held mobile phone while driving? | type text messages or e-mails while driving? | check or update social media (example: Facebook, twitter, etc.) while driving? | drive when they're so sleepy that they have trouble keeping their eyes open? |
|---|---|---|---|---|---|---|---|
| Argentina | 22% | 13% | 15% | 14% | 10% | 8% | 7% |
| Australia | 14% | 10% | 11% | 12% | 9% | 9% | 9% |
| Austria | 43% | 6% | 9% | 14% | 3% | 3% | 4% |
| Belgium | 30% | 13% | 6% | 8% | 5% | 4% | 3% |
| Bolivia | 24% | 16% | 18% | 13% | 9% | 10% | 8% |
| Brazil | 16% | 12% | 11% | 10% | 7% | 10% | 7% |
| Canada | 31% | 7% | 9% | 8% | 6% | 6% | 6% |
| Chile | 17% | 7% | 9% | 7% | 5% | 6% | 4% |
| Colombia | 19% | 9% | 9% | 7% | 4% | 6% | 3% |
| Costa Rica | 17% | 8% | 9% | 8% | 6% | 6% | 5% |
| Czech Republic | 28% | 6% | 7% | 10% | 3% | 2% | 3% |
| Denmark | 30% | 2% | 2% | 8% | 3% | 2% | 3% |
| Ecuador | 16% | 11% | 10% | 7% | 4% | 5% | 4% |
| Finland | 26% | 4% | 5% | 24% | 5% | 4% | 4% |
| France | 28% | 10% | 11% | 11% | 8% | 9% | 6% |
| Germany | 40% | 9% | 12% | 20% | 8% | 8% | 10% |
| Greece | 36% | 18% | 18% | 25% | 13% | 12% | 10% |
| Guatemala | 22% | 13% | 14% | 13% | 7% | 8% | 6% |
| Hungary | 26% | 7% | 10% | 5% | 2% | 1% | 1% |
| Ireland | 23% | 8% | 8% | 12% | 8% | 7% | 6% |
| Israel | 40% | 12% | 22% | 15% | 13% | 9% | 5% |
| Italy | 46% | 35% | 29% | 32% | 19% | 14% | 14% |

| Country/Group | drive 20 km per hour over the speed limit on a freeway / motorway? | drive 20 km per hour over the speed limit on a residential street? | drive 20 km per hour over the speed limit in an urban area? | talk on a hand-held mobile phone while driving? | type text messages or e-mails while driving? | check or update social media (example: Facebook, twitter, etc.) while driving? | drive when they're so sleepy that they have trouble keeping their eyes open? |
|---|---|---|---|---|---|---|---|
| Mexico | 23% | 11% | 13% | 12% | 8% | 8% | 6% |
| Netherlands | 31% | 15% | 5% | 6% | 4% | 4% | 4% |
| Norway | 32% | 5% | 5% | 11% | 5% | 4% | 4% |
| Paraguay | 24% | 16% | 15% | 14% | 9% | 9% | 5% |
| Peru | 16% | 11% | 11% | 9% | 6% | 6% | 5% |
| Poland | 34% | 13% | 20% | 17% | 9% | 7% | 6% |
| Portugal | 44% | 10% | 13% | 8% | 5% | 3% | 3% |
| Republic of Korea | 22% | 14% | 16% | 14% | 9% | 9% | 6% |
| Slovenia | 28% | 6% | 5% | 9% | 5% | - | 5% |
| Spain | 33% | 8% | 12% | 9% | 5% | 5% | 5% |
| Sweden | 40% | 8% | 8% | 21% | 9% | 7% | 7% |
| Switzerland | 30% | 3% | 4% | 6% | 3% | 2% | 3% |
| United Kingdom | 17% | 6% | 6% | 7% | 5% | 5% | 5% |
| United States | 27% | 13% | 14% | 18% | 13% | 12% | 11% |
| Uruguay | 23% | 9% | 9% | 8% | 5% | 5% | 4% |
| Venezuela | 26% | 13% | 15% | 15% | 10% | 10% | 6% |
| LATAM mean | 19% | 11% | 12% | 11% | 7% | 8% | 6% |
| Europe mean | 33% | 12% | 13% | 15% | 8% | 7% | 7% |
| ESRA mean | 26% | 12% | 13% | 14% | 9% | 9% | 7% |

Table 13: Where you live, how acceptable would most other people say it is for a driver to...? Part 2

You can indicate your answer on a scale from 1 to 5, where 1 is 'unacceptable' and 5 is 'acceptable'. The numbers in between can be used to re-fine your response. => % acceptable (score 4-5)

| Country/Group | drive when they think they may have had too much to drink? | drive 1 hour after using drugs (other than medication)? | drive after using both drugs (other than medication) and alcohol? | not wear a seatbelt in the back of the car? | not wear a seatbelt in the front of the car? | transport children in the car without securing them (child's car seat, seatbelt, etc.)? |
|---|---|---|---|---|---|---|
| Argentina | 8% | 7% | 6% | 23% | 13% | 14% |
| Australia | 9% | 11% | 8% | 9% | 8% | 9% |
| Austria | 3% | 2% | 2% | 17% | 7% | 3% |
| Belgium | 4% | 3% | 2% | 14% | 8% | 3% |
| Bolivia | 5% | 7% | 7% | 29% | 22% | 26% |
| Brazil | 6% | 6% | 6% | 19% | 9% | 9% |
| Canada | 6% | 6% | 5% | 9% | 6% | 7% |
| Chile | 4% | 5% | 3% | 17% | 6% | 9% |
| Colombia | 3% | 4% | 3% | 22% | 6% | 10% |
| Costa Rica | 4% | 5% | 4% | 19% | 6% | 8% |
| Czech Republic | 1% | 2% | 2% | 17% | 7% | 2% |
| Denmark | 1% | 1% | 1% | 8% | 4% | 1% |
| Ecuador | 4% | 3% | 3% | 18% | 5% | 12% |
| Finland | 2% | 13% | 1% | 20% | 8% | 2% |
| France | 7% | 6% | 6% | 11% | 9% | 7% |
| Germany | 6% | 5% | 5% | 19% | 10% | 8% |
| Greece | 12% | 13% | 14% | 45% | 26% | 14% |
| Guatemala | 7% | 6% | 5% | 23% | 13% | 16% |
| Hungary | 1% | 1% | 1% | 16% | 5% | 2% |
| Ireland | 6% | 6% | 4% | 12% | 6% | 6% |
| Israel | 5% | 4% | 3% | 14% | 4% | 7% |
| Italy | 7% | 7% | 9% | 54% | 19% | 20% |

| Country/Group | drive when they think they may have had too much to drink? | drive 1 hour after using drugs (other than medication)? | drive after using both drugs (other than medication) and alcohol? | not wear a seatbelt in the back of the car? | not wear a seatbelt in the front of the car? | transport children in the car without securing them (child's car seat, seatbelt, etc.)? |
|---|---|---|---|---|---|---|
| Mexico | 7% | 6% | 6% | 22% | 11% | 15% |
| Netherlands | 3% | 4% | 2% | 16% | 7% | 4% |
| Norway | 3% | 3% | 2% | 8% | 5% | 2% |
| Paraguay | 7% | 7% | 6% | 25% | 12% | 19% |
| Peru | 5% | 5% | 4% | 17% | 6% | 13% |
| Poland | 5% | 5% | 5% | 24% | 13% | 8% |
| Portugal | 4% | 4% | 3% | 17% | 4% | 4% |
| Republic of Korea | 6% | 8% | 6% | 25% | 9% | 9% |
| Slovenia | 4% | 6% | 5% | 9% | 8% | 4% |
| Spain | 5% | 5% | 4% | 11% | 6% | 6% |
| Sweden | 4% | 5% | 4% | 12% | 10% | 5% |
| Switzerland | 2% | 2% | 2% | 21% | 9% | 3% |
| United Kingdom | 4% | 5% | 4% | 10% | 5% | 5% |
| United States | 10% | 10% | 10% | 22% | 13% | 11% |
| Uruguay | 4% | 6% | 4% | 21% | 8% | 10% |
| Venezuela | 8% | 8% | 8% | 27% | 16% | 17% |
| LATAM mean | 6% | 6% | 6% | 21% | 10% | 12% |
| Europe mean | 5% | 5% | 5% | 21% | 10% | 8% |
| ESRA mean | 7% | 7% | 6% | 21% | 11% | 10% |

Table 14: How acceptable do you, personally, feel it is for a driver to…? Part 1

You can indicate your answer on a scale from 1 to 5, where 1 is 'unacceptable' and 5 is 'acceptable'. The numbers in between can be used to re-fine your response. => % acceptable (score 4-5)

| Country/Group | drive 20 km per hour over the speed limit on a freeway / motorway? | drive 20 km per hour over the speed limit on a residential street? | drive 20 km per hour over the speed limit in an urban area? | talk on a hand-held mobile phone while driving? | type text messages or e-mails while driving? | drive when they're so sleepy that they have trouble keeping their eyes open? | drive when they think they may have had too much to drink? |
|---|---|---|---|---|---|---|---|
| Argentina | 12% | 5% | 6% | 6% | 3% | 3% | 3% |
| Australia | 13% | 9% | 9% | 10% | 8% | 8% | 7% |
| Austria | 36% | 3% | 7% | 10% | 2% | 1% | 1% |
| Belgium | 27% | 10% | 5% | 3% | 2% | 1% | 2% |
| Bolivia | 12% | 7% | 8% | 5% | 2% | 3% | 3% |
| Brazil | 11% | 5% | 6% | 6% | 5% | 4% | 4% |
| Canada | 26% | 5% | 7% | 6% | 4% | 4% | 4% |
| Chile | 10% | 4% | 5% | 4% | 2% | 3% | 3% |
| Colombia | 12% | 4% | 4% | 4% | 2% | 1% | 1% |
| Costa Rica | 10% | 4% | 3% | 2% | 1% | 1% | 2% |
| Czech Republic | 24% | 4% | 5% | 5% | 1% | 1% | 1% |
| Denmark | 24% | 1% | 1% | 5% | 1% | 1% | 1% |
| Ecuador | 10% | 4% | 4% | 3% | 1% | 1% | 1% |
| Finland | 20% | 2% | 2% | 11% | 2% | 0% | 1% |
| France | 25% | 6% | 6% | 7% | 5% | 4% | 5% |
| Germany | 24% | 4% | 6% | 9% | 3% | 3% | 3% |
| Greece | 20% | 6% | 4% | 6% | 4% | 2% | 3% |
| Guatemala | 12% | 4% | 4% | 5% | 2% | 1% | 1% |
| Hungary | 23% | 5% | 7% | 3% | 1% | 1% | 0% |
| Ireland | 15% | 4% | 4% | 5% | 3% | 2% | 3% |
| Israel | 33% | 8% | 14% | 10% | 9% | 4% | 4% |
| Italy | 31% | 18% | 19% | 8% | 7% | 5% | 6% |

| Country/Group | drive 20 km per hour over the speed limit on a freeway / motorway? | drive 20 km per hour over the speed limit on a residential street? | drive 20 km per hour over the speed limit in an urban area? | talk on a hand-held mobile phone while driving? | type text messages or e-mails while driving? | drive when they're so sleepy that they have trouble keeping their eyes open? | drive when they think they may have had too much to drink? |
|---|---|---|---|---|---|---|---|
| Mexico | 15% | 6% | 7% | 6% | 5% | 4% | 4% |
| Netherlands | 28% | 13% | 4% | 6% | 2% | 3% | 3% |
| Norway | 29% | 3% | 3% | 7% | 3% | 3% | 2% |
| Paraguay | 14% | 7% | 6% | 5% | 3% | 3% | 2% |
| Peru | 8% | 4% | 4% | 3% | 2% | 2% | 2% |
| Poland | 30% | 11% | 16% | 14% | 7% | 5% | 4% |
| Portugal | 37% | 5% | 5% | 3% | 1% | 2% | 1% |
| Republic of Korea | 13% | 8% | 10% | 9% | 5% | 5% | 4% |
| Slovenia | 24% | 4% | 4% | 5% | 2% | 2% | 2% |
| Spain | 24% | 4% | 6% | 5% | 4% | 3% | 2% |
| Sweden | 30% | 3% | 4% | 12% | 3% | 3% | 3% |
| Switzerland | 27% | 2% | 3% | 6% | 2% | 2% | 1% |
| United Kingdom | 12% | 3% | 4% | 4% | 4% | 4% | 4% |
| United States | 19% | 8% | 10% | 13% | 8% | 8% | 7% |
| Uruguay | 16% | 3% | 4% | 3% | 1% | 1% | 1% |
| Venezuela | 16% | 4% | 6% | 5% | 3% | 2% | 2% |
| LATAM mean | 12% | 5% | 6% | 5% | 4% | 3% | 3% |
| Europe mean | 25% | 7% | 8% | 7% | 4% | 3% | 3% |
| ESRA mean | 19% | 7% | 8% | 8% | 5% | 4% | 4% |

Table 15: How acceptable do you, personally, feel it is for a driver to…? Part 2

You can indicate your answer on a scale from 1 to 5, where 1 is 'unacceptable' and 5 is 'acceptable'. The numbers in between can be used to re-fine your response. => % acceptable (score 4-5)

| Country/Group | drive 1 hour after using drugs (other than medication)? | drive after using both drugs (other than medi-cation) and alcohol? | not wear a seat-belt in the back of the car? | not wear a seat-belt in the front of the car? | transport children in the car without securing them (child's car seat, seatbelt, etc.)? |
|---|---|---|---|---|---|
| Argentina | 4% | 2% | 10% | 6% | 5% |
| Australia | 8% | 7% | 8% | 8% | 7% |
| Austria | 1% | 1% | 13% | 5% | 1% |
| Belgium | 1% | 1% | 8% | 4% | 1% |
| Bolivia | 3% | 3% | 15% | 9% | 8% |
| Brazil | 5% | 4% | 10% | 5% | 5% |
| Canada | 5% | 4% | 8% | 5% | 4% |
| Chile | 2% | 2% | 10% | 3% | 4% |
| Colombia | 2% | 1% | 14% | 3% | 4% |
| Costa Rica | 2% | 1% | 9% | 2% | 2% |
| Czech Republic | 1% | 0% | 11% | 5% | 1% |
| Denmark | 1% | 0% | 5% | 2% | 1% |
| Ecuador | 2% | 2% | 10% | 3% | 5% |
| Finland | 6% | 0% | 8% | 6% | 2% |
| France | 4% | 3% | 9% | 7% | 4% |
| Germany | 3% | 2% | 9% | 5% | 3% |
| Greece | 4% | 3% | 23% | 7% | 2% |
| Guatemala | 2% | 1% | 9% | 4% | 5% |
| Hungary | 1% | 1% | 12% | 3% | 1% |
| Ireland | 3% | 3% | 7% | 3% | 3% |
| Israel | 3% | 3% | 9% | 3% | 5% |
| Italy | 5% | 5% | 25% | 7% | 0% |
| Mexico | 4% | 4% | 11% | 7% | 6% |

| Country/Group | drive 1 hour after using drugs (other than medication)? | drive after using both drugs (other than medication) and alcohol? | not wear a seat-belt in the back of the car? | not wear a seat-belt in the front of the car? | transport children in the car without securing them (child's car seat, seatbelt, etc.)? |
|---|---|---|---|---|---|
| Netherlands | 3% | 2% | 11% | 5% | 3% |
| Norway | 2% | 2% | 6% | 3% | 2% |
| Paraguay | 3% | 3% | 14% | 4% | 9% |
| Peru | 2% | 2% | 8% | 3% | 3% |
| Poland | 4% | 4% | 19% | 10% | 7% |
| Portugal | 2% | 1% | 10% | 2% | 1% |
| Republic of Korea | 6% | 4% | 17% | 7% | 6% |
| Slovenia | 3% | 2% | 6% | 6% | 2% |
| Spain | 3% | 3% | 6% | 4% | 3% |
| Sweden | 3% | 3% | 8% | 5% | 3% |
| Switzerland | 2% | 1% | 15% | 7% | 3% |
| United Kingdom | 4% | 3% | 6% | 5% | 4% |
| United States | 8% | 7% | 14% | 10% | 8% |
| Uruguay | 2% | 1% | 11% | 3% | 2% |
| Venezuela | 2% | 2% | 13% | 6% | 6% |
| LATAM mean | 4% | 3% | 11% | 5% | 5% |
| Europe mean | 3% | 3% | 12% | 6% | 3% |
| ESRA mean | 5% | 4% | 12% | 7% | 5% |

Table 16: In the past 12 months, as a road user, how often did you…? Part 1

You can indicate your answer on a scale from 1 to 5, where 1 is 'never' and 5 is '(almost) always'. The numbers in between can be used to refine your response. (+ answering options: 'not applicable' & 'no response') => % at least once (score 2-5); in the case of seatbelt use: % (almost) always (score 5).

| Country/Group | wear your seat belt as driver? | wear your seat belt as passenger in the front of the car? | you wear your seat belt as passenger in the back of the car? | make children (under 150cm) travelling with you use appropriate restraint (child seat, cushion)? |
|---|---|---|---|---|
| Argentina | 76% | 65% | 43% | 46% |
| Australia | 80% | 81% | 77% | 64% |
| Austria | 82% | 86% | 66% | 72% |
| Belgium | 89% | 92% | 75% | 76% |
| Bolivia | 67% | 43% | 17% | 33% |
| Brazil | 74% | 73% | 44% | 34% |
| Canada | 84% | 82% | 72% | 67% |
| Chile | 78% | 78% | 39% | 57% |
| Colombia | 83% | 80% | 30% | 41% |
| Costa Rica | 91% | 86% | 49% | 77% |
| Czech Republic | 88% | 88% | 63% | 74% |
| Denmark | 88% | 90% | 82% | 80% |
| Ecuador | 87% | 78% | 29% | 43% |
| Finland | 92% | 93% | 86% | 65% |
| France | 76% | 84% | 70% | 66% |
| Germany | 79% | 85% | 72% | 66% |
| Greece | 74% | 71% | 15% | 53% |
| Guatemala | 79% | 75% | 40% | 51% |
| Hungary | 85% | 88% | 55% | 83% |
| Ireland | 80% | 84% | 71% | 65% |
| Israel | 84% | 86% | 66% | 67% |
| Italy | 87% | 85% | 24% | 75% |
| Mexico | 78% | 71% | 40% | 47% |

| | | | | |
|---|---|---|---|---|
| Netherlands | 84% | 86% | 64% | 59% |
| Norway | 87% | 88% | 75% | 76% |
| Paraguay | 89% | 85% | 40% | 55% |
| Peru | 85% | 77% | 30% | 40% |
| Poland | 77% | 82% | 53% | 41% |
| Portugal | 84% | 85% | 53% | 49% |
| Republic of Korea | 70% | 61% | 22% | 32% |
| Slovenia | 72% | 83% | 54% | 80% |
| Spain | 80% | 81% | 70% | 62% |
| Sweden | 84% | 87% | 81% | 66% |
| Switzerland | 79% | 86% | 60% | 63% |
| United Kingdom | 77% | 86% | 75% | 57% |
| United States | 78% | 76% | 56% | 65% |
| Uruguay | 82% | 81% | 42% | 61% |
| Venezuela | 73% | 71% | 33% | 50% |
| LATAM mean | 77% | 73% | 39% | 42% |
| Europe mean | 80% | 85% | 62% | 63% |
| ESRA mean | 79% | 78% | 52% | 55% |

Table 17: In the past 12 months, as a road user, how often did you…? Part 2

You can indicate your answer on a scale from 1 to 5, where 1 is 'never' and 5 is '(almost) always'. The numbers in between can be used to refine your response. (+ answering options: 'not applicable' & 'no response') => % at least once (score 2-5); in the case of seatbelt use: % (almost) always (score 5).

| Country/Group | make children (over 150cm) travelling with you wear a seatbelt? | listen to music through headphones as a pedestrian? | cycle without a helmet? | cycle while listening to music through a headphone? |
|---|---|---|---|---|
| Argentina | 67% | 53% | 83% | 45% |
| Australia | 67% | 38% | 46% | 48% |
| Austria | 73% | 35% | 81% | 20% |
| Belgium | 77% | 26% | 89% | 23% |
| Bolivia | 50% | 67% | 83% | 56% |
| Brazil | 36% | 54% | 72% | 52% |
| Canada | 72% | 47% | 54% | 40% |
| Chile | 65% | 60% | 77% | 51% |
| Colombia | 61% | 58% | 72% | 57% |
| Costa Rica | 79% | 57% | 70% | 41% |
| Czech Republic | 74% | 28% | 75% | 21% |
| Denmark | 82% | 40% | 81% | 35% |
| Ecuador | 65% | 58% | 72% | 53% |
| Finland | 76% | 42% | 82% | 32% |
| France | 67% | 33% | 78% | 26% |
| Germany | 69% | 34% | 86% | 25% |
| Greece | 61% | 44% | 80% | 38% |
| Guatemala | 64% | 50% | 75% | 51% |
| Hungary | 86% | 27% | 90% | 19% |
| Ireland | 68% | 46% | 66% | 34% |
| Israel | 74% | 53% | 66% | 38% |
| Italy | 68% | 41% | 73% | 36% |
| Mexico | 66% | 56% | 77% | 53% |
| Netherlands | 64% | 35% | 88% | 32% |
| Norway | 80% | 48% | 75% | 41% |
| Paraguay | 70% | 58% | 68% | 52% |
| Peru | 69% | 67% | 77% | 66% |
| Poland | 41% | 39% | 86% | 31% |
| Portugal | 43% | 36% | 63% | 30% |
| Republic of Korea | 41% | 61% | 79% | 60% |
| Slovenia | 79% | 33% | 85% | 29% |
| Spain | 69% | 50% | 72% | 35% |
| Sweden | 75% | 45% | 83% | 34% |
| Switzerland | 66% | 37% | 73% | 26% |
| United Kingdom | 61% | 36% | 59% | 30% |
| United States | 70% | 52% | 68% | 57% |
| Uruguay | 70% | 63% | 86% | 50% |
| Venezuela | 67% | 48% | 76% | 50% |

| | | | | |
|---|---|---|---|---|
| LATAM mean | 54% | 56% | 75% | 52% |
| Europe mean | 66% | 38% | 80% | 29% |
| ESRA mean | 62% | 48% | 75% | 42% |

Table 18: In the past 12 months, as a road user, how often did you…? Part 3

You can indicate your answer on a scale from 1 to 5, where 1 is 'never' and 5 is '(almost) always'. The numbers in between can be used to refine your response.
(+ answering options: 'not applicable' & 'no response') => % at least once (score 2-5); in the case of seatbelt use: % (almost) always (score 5).

| Country/Group | cycle on the road next to the cycle lane? | not wear a helmet on a moped or motorcycle? | drive faster than the speed limit inside built-up areas? | drive faster than the speed limit outside built-up areas (except motorways/freeways)? | drive faster than the speed limit on motorways/ freeways? | drive after drinking alcohol? | drive after using illegal drugs? |
|---|---|---|---|---|---|---|---|
| Argentina | 57% | 50% | 49% | 51% | 52% | 28% | 9% |
| Australia | 58% | 69% | 52% | 55% | 61% | 31% | 17% |
| Austria | 35% | 13% | 74% | 84% | 81% | 30% | 7% |
| Belgium | 34% | 11% | 67% | 76% | 73% | 43% | 3% |
| Bolivia | 73% | 58% | 58% | 61% | 60% | 33% | 8% |
| Brazil | 35% | 37% | 48% | 47% | 51% | 29% | 16% |
| Canada | 52% | 55% | 62% | 69% | 77% | 28% | 14% |
| Chile | 57% | 36% | 56% | 57% | 64% | 24% | 12% |
| Colombia | 62% | 39% | 52% | 51% | 60% | 18% | 7% |
| Costa Rica | 72% | 53% | 52% | 60% | 63% | 27% | 7% |
| Czech Republic | 36% | 31% | 74% | 78% | 73% | 11% | 4% |
| Denmark | 37% | 34% | 75% | 84% | 81% | 32% | 6% |
| Ecuador | 69% | 46% | 51% | 55% | 56% | 33% | 6% |
| Finland | 42% | 27% | 85% | 91% | 84% | 18% | 3% |
| France | 42% | 27% | 68% | 73% | 68% | 41% | 16% |
| Germany | 49% | 22% | 77% | 82% | 80% | 30% | 10% |
| Greece | 55% | 55% | 58% | 64% | 71% | 29% | 10% |
| Guatemala | 64% | 63% | 53% | 57% | 61% | 29% | 6% |
| Hungary | 29% | 23% | 74% | 75% | 62% | 11% | 3% |
| Ireland | 43% | 56% | 50% | 59% | 61% | 20% | 10% |
| Israel | 43% | 27% | 63% | 72% | 79% | 18% | 8% |
| Italy | 94% | 18% | 73% | 79% | 76% | 34% | 7% |
| Mexico | 59% | 65% | 53% | 55% | 61% | 32% | 11% |

| Country/Group | cycle on the road next to the cycle lane? | not wear a helmet on a moped or motorcycle? | drive faster than the speed limit inside built-up areas? | drive faster than the speed limit outside built-up areas (except motorways/freeways)? | drive faster than the speed limit on motorways/ freeways? | drive after drinking alcohol? | drive after using illegal drugs? |
|---|---|---|---|---|---|---|---|
| Netherlands | 31% | 26% | 66% | 75% | 78% | 29% | 7% |
| Norway | 68% | 34% | 66% | 83% | 89% | 13% | 8% |
| Paraguay | 65% | 74% | 57% | 62% | 61% | 30% | 6% |
| Peru | 66% | 61% | 54% | 52% | 56% | 27% | 11% |
| Poland | 35% | 43% | 64% | 68% | 57% | 12% | 10% |
| Portugal | 29% | 23% | 72% | 77% | 81% | 34% | 5% |
| Republic of Korea | 67% | 69% | 69% | 74% | 77% | 26% | 24% |
| Slovenia | 84% | 35% | 61% | 73% | 73% | 30% | 9% |
| Spain | 45% | 29% | 64% | 64% | 74% | 35% | 12% |
| Sweden | 48% | 43% | 64% | 79% | 82% | 13% | 9% |
| Switzerland | 46% | 22% | 63% | 75% | 80% | 38% | 10% |
| United Kingdom | 39% | 38% | 55% | 60% | 66% | 28% | 13% |
| United States | 64% | 67% | 62% | 67% | 73% | 32% | 19% |
| Uruguay | 60% | 47% | 50% | 54% | 62% | 18% | 7% |
| Venezuela | 69% | 65% | 47% | 52% | 62% | 32% | 7% |
| LATAM mean | 50% | 46% | 50% | 51% | 56% | 29% | 12% |
| Europe mean | 47% | 27% | 68% | 73% | 73% | 30% | 11% |
| ESRA mean | 51% | 47% | 61% | 65% | 68% | 30% | 14% |

Table 19: In the past 12 months, as a road user, how often did you…? Part 4

You can indicate your answer on a scale from 1 to 5, where 1 is 'never' and 5 is '(almost) always'. The numbers in between can be used to refine your response. (+ answering options: 'not applicable' & 'no response') => % at least once (score 2-5); in the case of seatbelt use: % (almost) always (score 5).

| Country/Group | drive after using illegal drugs? | talk on a hand-held mobile phone while driving? | talk on a hands-free mobile phone while driving | read a text message or email while driving? | send a text message or email while driving? | realise that you were actually too tired to drive? |
|---|---|---|---|---|---|---|
| Argentina | 9% | 36% | 46% | 42% | 29% | 70% |
| Australia | 17% | 28% | 47% | 32% | 27% | 57% |
| Austria | 7% | 47% | 63% | 36% | 28% | 57% |
| Belgium | 3% | 28% | 41% | 37% | 27% | 53% |
| Bolivia | 8% | 51% | 60% | 47% | 39% | 76% |
| Brazil | 16% | 46% | 55% | 40% | 32% | 61% |
| Canada | 14% | 25% | 45% | 29% | 24% | 54% |
| Chile | 12% | 42% | 64% | 40% | 29% | 73% |
| Colombia | 7% | 40% | 65% | 41% | 30% | 73% |
| Costa Rica | 7% | 50% | 68% | 57% | 47% | 73% |
| Czech Republic | 4% | 41% | 39% | 37% | 27% | 65% |
| Denmark | 6% | 42% | 51% | 44% | 35% | 52% |
| Ecuador | 6% | 50% | 63% | 48% | 38% | 76% |
| Finland | 3% | 73% | 52% | 56% | 41% | 67% |
| France | 16% | 31% | 37% | 39% | 30% | 66% |
| Germany | 10% | 35% | 51% | 32% | 26% | 57% |
| Greece | 10% | 61% | 62% | 45% | 30% | 56% |
| Guatemala | 6% | 59% | 71% | 55% | 49% | 79% |
| Hungary | 3% | 39% | 52% | 22% | 15% | 51% |
| Ireland | 10% | 30% | 47% | 36% | 27% | 52% |
| Israel | 8% | 43% | 83% | 54% | 44% | 61% |
| Italy | 7% | 55% | 74% | 49% | 33% | 70% |
| Mexico | 11% | 45% | 64% | 46% | 37% | 70% |

| Country/Group | drive after using illegal drugs? | talk on a hand-held mobile phone while driving? | talk on a hands-free mobile phone while driving | read a text message or email while driving? | send a text message or email while driving? | realise that you were actually too tired to drive? |
|---|---|---|---|---|---|---|
| Netherlands | 7% | 24% | 45% | 33% | 25% | 46% |
| Norway | 8% | 51% | 63% | 46% | 37% | 67% |
| Paraguay | 6% | 54% | 61% | 58% | 47% | 74% |
| Peru | 11% | 38% | 56% | 42% | 32% | 76% |
| Poland | 10% | 48% | 55% | 32% | 25% | 64% |
| Portugal | 5% | 46% | 60% | 44% | 28% | 59% |
| Republic of Korea | 24% | 60% | 66% | 61% | 50% | 72% |
| Slovenia | 9% | 60% | 52% | 34% | 27% | 77% |
| Spain | 12% | 35% | 56% | 36% | 26% | 66% |
| Sweden | 9% | 62% | 50% | 45% | 32% | 51% |
| Switzerland | 10% | 35% | 50% | 36% | 29% | 61% |
| United Kingdom | 13% | 22% | 39% | 27% | 21% | 50% |
| United States | 19% | 50% | 55% | 42% | 35% | 60% |
| Uruguay | 7% | 32% | 48% | 43% | 30% | 65% |
| Venezuela | 7% | 50% | 64% | 50% | 43% | 74% |
| LATAM mean | 12% | 45% | 58% | 43% | 34% | 67% |
| Europe mean | 11% | 38% | 51% | 36% | 27% | 60% |
| ESRA mean | 14% | 43% | 55% | 40% | 32% | 62% |

Table 20: In the past 12 months, as a road user, how often did you…? Part 5

You can indicate your answer on a scale from 1 to 5, where 1 is 'never' and 5 is '(almost) always'. The numbers in between can be used to refine your response. (+ answering options: 'not applicable' & 'no response') => % at least once (score 2-5); in the case of seatbelt use: % (almost) always (score 5).

| Country/Group | drive while taking medication that carries a warning to say it may influence your driving ability? | as a pedestrian, cross the road when a pedestrian light was red? | as a cyclist, cross the road when a traffic light was red? | as a pedestrian, cross streets at places other than at a pedestrian crossing? |
|---|---|---|---|---|
| Argentina | 18% | 63% | 44% | 85% |
| Australia | 29% | 53% | 46% | 82% |
| Austria | 21% | 50% | 21% | 82% |
| Belgium | 19% | 56% | 27% | 92% |
| Bolivia | 22% | 73% | 54% | 85% |
| Brazil | 25% | 73% | 52% | 83% |
| Canada | 21% | 55% | 47% | 79% |
| Chile | 20% | 71% | 43% | 84% |
| Colombia | 12% | 64% | 40% | 84% |
| Costa Rica | 18% | 60% | 42% | 86% |
| Czech Republic | 16% | 45% | 24% | 90% |
| Denmark | 12% | 62% | 45% | 94% |
| Ecuador | 15% | 70% | 51% | 81% |
| Finland | 20% | 75% | 52% | 96% |
| France | 32% | 76% | 40% | 84% |
| Germany | 22% | 63% | 39% | 86% |
| Greece | 18% | 75% | 49% | 87% |
| Guatemala | 20% | 55% | 39% | 79% |
| Hungary | 7% | 43% | 15% | 87% |
| Ireland | 18% | 75% | 44% | 90% |
| Israel | 17% | 62% | 35% | 87% |
| Italy | 15% | 62% | 48% | 89% |
| Mexico | 22% | 65% | 48% | 81% |

| Country/Group | drive while taking medication that carries a warning to say it may influence your driving ability? | as a pedestrian, cross the road when a pedestrian light was red? | as a cyclist, cross the road when a traffic light was red? | as a pedestrian, cross streets at places other than at a pedestrian crossing? |
|---|---|---|---|---|
| Netherlands | 22% | 64% | 51% | 86% |
| Norway | 19% | 76% | 48% | 93% |
| Paraguay | 17% | 57% | 33% | 79% |
| Peru | 24% | 63% | 46% | 77% |
| Poland | 18% | 46% | 19% | 83% |
| Portugal | 19% | 69% | 35% | 87% |
| Republic of Korea | 28% | 59% | 62% | 71% |
| Slovenia | 16% | 38% | 26% | 84% |
| Spain | 24% | 82% | 42% | 92% |
| Sweden | 16% | 70% | 39% | 93% |
| Switzerland | 23% | 59% | 35% | 88% |
| United Kingdom | 22% | 71% | 34% | 90% |
| United States | 34% | 56% | 58% | 76% |
| Uruguay | 12% | 68% | 41% | 84% |
| Venezuela | 15% | 58% | 44% | 82% |
| LATAM mean | 21% | 68% | 48% | 82% |
| Europe mean | 22% | 66% | 37% | 88% |
| ESRA mean | 25% | 64% | 45% | 83% |

Table 21: In the past three months, have you been involved in a road traffic accident as…?

Percentages reflect the proportion of specific types of road users, not the total sample (all respondents indicating they have driven a car in the past 12 months) reported being involved in a road traffic accident in the past three months at least once.

| Country/Group | walking (including jogging, in-line skate, skateboard) | cyclist | motorcyclist (50-125 cc) | car driver | car passenger | lorry/truck driver |
|---|---|---|---|---|---|---|
| Argentina | 7% | 5% | 12% | 10% | 6% | 6% |
| Australia | 6% | 14% | 30% | 7% | 2% | 9% |
| Austria | 0% | 1% | 3% | 4% | 1% | 0% |
| Belgium | 0% | 1% | 0% | 3% | 0% | 0% |
| Bolivia | 15% | 5% | 11% | 13% | 17% | 0% |
| Brazil | 3% | 2% | 3% | 6% | 5% | 0% |
| Canada | 4% | 5% | 10% | 4% | 3% | 3% |
| Chile | 5% | 3% | 5% | 7% | 7% | 6% |
| Colombia | 8% | 6% | 9% | 9% | 9% | 16% |
| Costa Rica | 5% | 6% | 7% | 9% | 5% | 0% |
| Czech Republic | 2% | 2% | 0% | 4% | 2% | 0% |
| Denmark | 1% | 1% | 13% | 3% | 1% | 6% |
| Ecuador | 10% | 10% | 10% | 9% | 10% | 27% |
| Finland | 0% | 1% | 0% | 1% | 1% | 0% |
| France | 3% | 4% | 5% | 8% | 3% | 11% |
| Germany | 1% | 1% | 3% | 4% | 2% | 4% |
| Greece | 2% | 3% | 3% | 5% | 3% | 0% |
| Guatemala | 8% | 8% | 12% | 13% | 11% | 13% |
| Hungary | 1% | 2% | 0% | 2% | 1% | 0% |
| Ireland | 1% | 2% | 0% | 5% | 2% | 0% |
| Israel | 2% | 3% | 7% | 6% | 3% | 0% |
| Italy | 1% | 3% | 0% | 2% | 2% | 7% |
| Mexico | 9% | 4% | 7% | 11% | 12% | 7% |
| Netherlands | 1% | 2% | 5% | 3% | 0% | 7% |
| Norway | 2% | 4% | 9% | 4% | 2% | 10% |
| Paraguay | 7% | 4% | 11% | 11% | 10% | 3% |
| Peru | 12% | 10% | 12% | 9% | 15% | 0% |
| Poland | 1% | 2% | 0% | 4% | 1% | 5% |
| Portugal | 1% | 1% | 0% | 3% | 1% | 0% |
| Republic of Korea | 5% | 6% | 7% | 9% | 4% | 9% |
| Slovenia | 1% | 2% | 0% | 4% | 3% | 5% |

| Country/Group | walking (including jogging, in-line skate, skateboard) | cyclist | motorcyclist (50-125 cc) | car driver | car passenger | lorry/truck driver |
|---|---|---|---|---|---|---|
| Spain | 2% | 3% | 4% | 6% | 2% | 0% |
| Sweden | 1% | 2% | 11% | 3% | 1% | 0% |
| Switzerland | 1% | 2% | 1% | 5% | 1% | 0% |
| United Kingdom | 1% | 3% | 10% | 8% | 2% | 0% |
| United States | 8% | 14% | 18% | 9% | 7% | 8% |
| Uruguay | 3% | 1% | 4% | 4% | 4% | 0% |
| Venezuela | 6% | 5% | 5% | 6% | 10% | 4% |
| LATAM mean | 6% | 4% | 6% | 8% | 8% | 4% |
| Europe mean | 2% | 2% | 4% | 5% | 2% | 3% |
| ESRA mean | 4% | 5% | 12% | 7% | 4% | 7% |

Table 22: On a typical journey, how likely is it that you (as a driver) will be checked by the police for…?

You can indicate your answer on a scale from 1 to 5, where 1 is 'very small chance' and 5 is 'very big chance'. The numbers in between can be used to refine your response. (+ option: don't know/no response) => % big chance (score 4-5)

| Country/Group | alcohol, in other words, being subjected to a Breathalyser test? | the use of illegal drugs? | seatbelt wearing? | respecting the speed limits (including checks by police car with a camera and/or GoSafe cameras)? |
|---|---|---|---|---|
| Argentina | 28% | 15% | 27% | 29% |
| Australia | 32% | 27% | 29% | 44% |
| Austria | 15% | 6% | 18% | 39% |
| Belgium | 14% | 7% | 10% | 42% |
| Bolivia | 29% | 17% | 20% | 15% |
| Brazil | 19% | 14% | 18% | 20% |
| Canada | 18% | 15% | 19% | 28% |
| Chile | 28% | 16% | 28% | 36% |
| Colombia | 31% | 17% | 30% | 34% |
| Costa Rica | 23% | 17% | 31% | 27% |
| Czech Republic | 21% | 7% | 24% | 40% |
| Denmark | 2% | 1% | 2% | 11% |
| Ecuador | 33% | 26% | 42% | 51% |
| Finland | 4% | 3% | 3% | 33% |
| France | 29% | 22% | 27% | 55% |
| Germany | 8% | 6% | 11% | 25% |
| Greece | 15% | 8% | 22% | 34% |
| Guatemala | 18% | 15% | 19% | 28% |
| Hungary | 10% | 4% | 24% | 44% |
| Ireland | 9% | 7% | 11% | 27% |
| Israel | 8% | 5% | 8% | 15% |
| Italy | 15% | 13% | 20% | 34% |
| Mexico | 34% | 19% | 29% | 29% |

| Country/Group | alcohol, in other words, being subjected to a Breathalyser test? | the use of illegal drugs? | seatbelt wearing? | respecting the speed limits (including checks by police car with a camera and/or GoSafe cameras)? |
|---|---|---|---|---|
| Netherlands | 10% | 6% | 14% | 36% |
| Norway | 12% | 8% | 17% | 17% |
| Paraguay | 40% | 18% | 33% | 24% |
| Peru | 29% | 21% | 33% | 27% |
| Poland | 44% | 16% | 46% | 53% |
| Portugal | 23% | 8% | 23% | 35% |
| Republic of Korea | 33% | 17% | 31% | 43% |
| Slovenia | 27% | 13% | 34% | 43% |
| Spain | 24% | 13% | 18% | 42% |
| Sweden | 13% | 7% | 9% | 18% |
| Switzerland | 19% | 11% | 21% | 43% |
| United Kingdom | 9% | 7% | 9% | 22% |
| United States | 19% | 16% | 28% | 33% |
| Uruguay | 24% | 12% | 24% | 34% |
| Venezuela | 11% | 11% | 25% | 12% |
| LATAM mean | 25% | 16% | 25% | 25% |
| Europe mean | 18% | 11% | 19% | 36% |
| ESRA mean | 21% | 15% | 24% | 32% |

Table 23: In the past 12 months, how many times were you checked by the police for…?

=> % al least once

| Country/Group | stopped by the police for a check? | alcohol while driving a car (i.e., been subjected to a Breathalyser test)? | the use of drugs/medication while driving? |
|---|---|---|---|
| Argentina | 53% | 32% | 9% |
| Australia | 32% | 50% | 14% |
| Austria | 34% | 17% | 2% |
| Belgium | 19% | 17% | 1% |
| Bolivia | 54% | 29% | 11% |
| Brazil | 39% | 10% | 5% |
| Canada | 12% | 9% | 4% |
| Chile | 51% | 22% | 5% |
| Colombia | 58% | 31% | 12% |
| Costa Rica | 31% | 8% | 5% |
| Czech Republic | 45% | 33% | 4% |
| Denmark | 10% | 6% | 3% |
| Ecuador | 53% | 17% | 13% |
| Finland | 30% | 37% | 0% |
| France | 29% | 23% | 7% |
| Germany | 16% | 8% | 2% |
| Greece | 41% | 22% | 4% |
| Guatemala | 46% | 9% | 6% |
| Hungary | 30% | 19% | 2% |
| Ireland | 39% | 9% | 2% |
| Israel | 27% | 16% | 2% |
| Italy | 67% | 17% | 5% |
| Mexico | 43% | 36% | 12% |
| Netherlands | 18% | 17% | 2% |
| Norway | 26% | 24% | 4% |
| Paraguay | 65% | 39% | 10% |
| Peru | 44% | 24% | 11% |
| Poland | 46% | 47% | 6% |
| Portugal | 44% | 19% | 2% |
| Republic of Korea | 18% | 36% | 4% |
| Slovenia | 42% | 25% | 3% |
| Spain | 31% | 29% | 5% |
| Sweden | 25% | 29% | 3% |
| Switzerland | 33% | 14% | 3% |
| United Kingdom | 8% | 5% | 4% |
| United States | 16% | 10% | 8% |
| Uruguay | 32% | 19% | 6% |
| Venezuela | 30% | 5% | 4% |
| LATAM mean | 43% | 21% | 8% |
| Europe mean | 29% | 19% | 4% |

| Country/Group | stopped by the police for a check? | alcohol while driving a car (i.e., been subjected to a Breathalyser test)? | the use of drugs/medication while driving? |
|---|---|---|---|
| ESRA mean | 30% | 19% | 7% |

# Appendix 3: ESRA 2015 Questionnaire

### Legend

Dichotomization of the variables has been indicated in green below the question; the reference category is indicated in italics.

### Introduction

In the questionnaire, we ask about different traffic situations and your reactions to them. We would like to ask you when responding to **only be guided by your opinion on road safety in [COUNTRY]**, and to not take into account any experience with road safety abroad.

Thank you for your contribution!

### Socio-demographic information (1)

**Q1)** **Are you a…** male - female

**Q2a)** **In which year were you born? _ _ _ _**

**Q2b)** **In which month were you born?** (dropdown)

### Mobility and exposure

**Q3)** **Do you have a car driving licence or permit?** yes – no

**Q4)** **How often do you drive a car?**
Items: At least 4 days a week – 1 to 3 days a week – A few days a month – A few days a year – Never – Don't know / no response

**Q5a)** **During the last 12 months, which of the following transport modes have you been using in [COUNTRY]…**
Items: walking (pedestrian; including jogging, inline skate, skateboard,…) - cycling on an electric bicycle / e-bike / pedelec – cycling (non-electric) – moped as a driver (moped: ≤ 50 cc) – motorcycle as driver (> 50 cc) – hybrid or electrical car as driver – car as driver (non-electrical or hybrid) – car as passenger – (mini)van as a driver – truck/lorry as a driver – public transport – other

**Q5b)** **What were your most frequent modes of transport during the last 12 months?** **Place your modes of transport in order in the right hand column. Start with your most frequent mode first, followed by your second most frequent, and so on.** (drag & drop)
Items: only items marked in Q5a are displayed

If respondent has a car driving licence and has driven a car in the past year → Q6
Else → Q8

**Q6)** **Did you drive a car yourself in the past 6 months?** yes – no

**Q7)** **How many kilometres[7] would you estimate you have driven a car in the past 6 months?** __ km in total

[7] *In the UK, miles instead of kilometres are used.*

**Q8) Think about all the trips you undertook yesterday, so not only as a car driver but also as a pedestrian or cyclist, as a car passenger,… . How many kilometres have you travelled using each of these transport modes?**

**To indicate e.g. 500 metres (half a kilometre): please type 0.5 (Please limit to 1 decimal). If you did not travel using a particular mode, please indicate so by writing '0' km next to this mode.**

Items: only items marked in Q5a are displayed

## Road safety in general

**Q9) How concerned are you about each of the following issues?**

**You can indicate your answer on a scale from 1 to 4, where 1 is 'very concerned' and 4 is 'not at all concerned'. The numbers in between can be used to refine your response.**

Binary variable: *concerned (1-2)* - not concerned (3-4)

Items: rate of crime – pollution - road accidents - standard of health care - traffic congestion – unemployment

## Acceptability of unsafe traffic behaviour

**Q10) Where you live, how acceptable would most other people say it is for a driver to….?**

**You can indicate your answer on a scale from 1 to 5, where 1 is 'unacceptable' and 5 is 'acceptable'. The numbers in between can be used to refine your response.**

Binary variable: *acceptable (4-5)* – unacceptable (1-3)

Items (random)

- drive 20 km per hour over the speed limit on a freeway / motorway
- drive 20 km per hour over the speed limit on a residential street
- drive 20 km per hour over the speed limit in an urban area
- drive 20 km per hour over the speed limit in a school zone
- talk on a hand-held mobile phone while driving
- type text messages or e-mails while driving
- check or update social media (example: Facebook, twitter, etc.) while driving
- drive when they're so sleepy that they have trouble keeping their eyes open
- drive through a light that just turned red, when they could have stopped safely
- drive when they think they may have had too much to drink
- drive 1 hour after using drugs (other than medication)
- drive after using both drugs (other than medication) and alcohol
- drive with incorrect tyre pressure
- drive without insurance
- park their car where it is not allowed
- not wear a seat belt in the back of the car
- not wear a seat belt in the front of the car
- transport children in the car without securing them (child's car seat, seat belt, etc.)

**Q11) How acceptable do you, personally, feel it is for a driver to…?**

**You can indicate your answer on a scale from 1 to 5, where 1 is 'unacceptable' and 5 is 'acceptable'. The numbers in between can be used to refine your response.**

Binary variable: *acceptable (4-5)* – unacceptable (1-3)

Items (random): idem Q10

## Support for road safety policy measures

**Q12) Do you support each of the following measures?**

Answering options: *support (pro)* – oppose (contra) – no opinion

Items (random):

- Obligatory winter tyres for cars, trucks & buses
- A licence system with penalty points for traffic violations that results in the revocation of the licence when a certain number of points are reached

- Drivers who have been caught drunk driving on more than one occasion should be required to install an 'interlock' *(*) interlock: technology that won't let the car start if the driver's alcohol level is over the legal limit*
- Zero tolerance for alcohol (0,0‰) for novice drivers (licence obtained less than 2y)
- Zero tolerance for alcohol (0,0‰) for all drivers
- Zero tolerance for using any type of mobile phone while driving (hand-held or hands-free) for all drivers
- Ban on alcohol sales in service / petrol stations along the highways / motorways
- Allowing cyclists to run red lights when permitted by specific road signs
- Having a law requiring all cyclists to wear a helmet
- Obligation for pedestrians and cyclists to wear high-visibility vests when in the dark

**Q13) What do you think about the current traffic rules and penalties in your country for each of the following themes?**

Answering options: *yes* – no – don't know/no response

Items (fixed order): each time for: speeding – alcohol – drugs – seat belt

- The traffic rules should be more strict
- The traffic rules are not being checked sufficiently
- The penalties are too severe

### Self-declared behaviour

**Q14) In the past 12 months, as a road user, how often did you… ?**

**You can indicate your answer on a scale from 1 to 5, where 1 is 'never' and 5 is '(almost) always'. The numbers in between can be used to refine your response. (+ answering options: 'not applicable' & 'no response')**

Binary variable: never (1) – *at least once (2-5)*

Binary variable for seat belt use: *(almost) always (5)* – not always (1-4)

Items (random; only items compatible with the road user types indicated in Q5a are shown):

- wear your seat belt as driver
- wear your seat belt as passenger in the front of the car
- wear your seat belt as passenger in the back of the car
- make children (under 150cm)[8] travelling with you use appropriate restraint (child seat, cushion)
- make children (over 150cm) travelling with you wear a seat belt
- listen to music through headphones as a pedestrian
- cycle without a helmet
- cycle while listening to music through a headphone
- cycle on the road next to the cycle lane
- not wear a helmet on a moped or motorcycle
- drive faster than the speed limit inside built-up areas
- drive faster than the speed limit outside built-up areas (except motorways/freeways)
- driver faster than the speed limit on motorways/ freeways
- drive after drinking alcohol
- drive after using illegal drugs
- talk on a hand-held mobile phone while driving
- talk on a hands-free mobile phone while driving
- read a text message or email while driving
- send a text message or email while driving
- realise that you were actually too tired to drive
- stop and take a break because you were too tired to drive
- drive while taking medication that carries a warning to say it may influence your driving ability
- drive aggressively
- drive too slow
- drive without respecting a safe distance to the car in front

[8] *Adapted in each country to the correct legislation (e.g. in BE 135cm)*

- not indicating directions when you overtake, turn left or turn right
- drive dangerously
- as a pedestrian, cross the road when a pedestrian light was red
- as a cyclist, cross the road when a traffic light was red
- as a pedestrian, cross streets at places other than at a pedestrian crossing

**Q15) Over the last 30 days, how many times did you drive a car, when you may have been over the legal limit for drinking and driving?** (dropdown 0 – 30 + no response)
Binary variable: never *(0)* – *at least once* (1-30)

### Attitudes towards (unsafe) traffic behaviour

**Q16) To what extent do you agree with each of the following statements?**
**You can indicate your answer on a scale from 1 to 5, where 1 is 'disagree' and 5 is 'agree'. The numbers in between can be used to refine your response.**
Binary variable: *agree (4-5)* – disagree (1-3)
Items (random)

- Driving under the influence of alcohol seriously increases the risk of an accident
- Most of my acquaintances / friends think driving under the influence of alcohol is unacceptable
- If you drive under the influence of alcohol, it is difficult to react appropriately in a dangerous situation
- Driving under the influence of drugs seriously increases the risk of an accident
- Most of my acquaintances / friends think driving under the influence of drugs is unacceptable
- I know how many drugs I can take and still be safe to drive
- Driving fast is risking your own life, and the lives of others
- I have to drive fast, otherwise I have the impression of losing time
- Driving faster than the speed limit makes it harder to react appropriately in a dangerous situation
- Most of my acquaintances / friends feel one should respect the speed limits
- Speed limits are usually set at acceptable levels
- By increasing speed by 10 km/h, you have a higher risk of being involved in an accident
- It is not necessary to wear a seat belt in the back seat of the car
- I always ask my passengers to wear their seat belt
- The instructions for using the child restraints are unclear
- It is dangerous if children travelling with you do not wear a seat belt or use appropriate restraint
- For short trips, it is not really necessary to use the appropriate child restraint
- My attention to the traffic decreases when talking on a hands free mobile phone while driving
- My attention to the traffic decreases when talking on a hand-held mobile phone while driving
- Almost all car drivers occasionally talk on a hand-held mobile phone while driving
- People talking on a hand-held mobile phone while driving have a higher risk of getting involved in an accident
- When I feel sleepy, I should not drive a car
- Even if I feel sleepy while driving a car, I will continue to drive
- If I feel sleepy while driving, then the risk of being in an accident increases

### Subjective safety and risk perception

**Q17)* How (un)safe do you feel when using the following transport modes in [country]?**
**You can indicate your answer on a scale from 0 to 10, where 0 is 'very unsafe' and 10 is 'very safe'. The numbers in between can be used to refine your response.**
Items (random): only items marked in Q5a are displayed

**Q18) In your opinion, how many road traffic accidents are caused by each of the following factors? Estimate a percentage of accidents for each factor. In other words, how many accidents out of 100 were caused by the following factors. Provide a separate estimate for each factor. Always answer using a figure between 0 and 100 *(+ option: don't know)* The total sum of all the factors can be more than 100.**

Items (random):

- Tiredness behind the wheel
- Driving under the influence of alcohol
- Driving too close to the vehicle in front
- Driving too fast
- Taking psychoactive medication and driving *(*) psychoactive medications: with side effect on the central nervous system (e.g. sedatives, antidepressants)*
- Taking drugs and driving
- Poorly maintained roads
- Poor road design
- Using a mobile phone to make a call while driving without using a hands-free device
- Congestion / traffic jams
- Bad weather conditions
- Technical defects in vehicles
- Aggressive driving style
- Inattentiveness
- Insufficient knowledge of the rules of the road
- Sending a text message while driving

### Behaviour of other road users

**Q19) Can you specify, for each of the following behaviours how often you, as a road user, are confronted with these behaviours?**

**You can indicate your opinion by means of a number from 0 to 10. '0' is 'never', and '10' is 'very often'. The numbers in between can be used to refine your answer.**

Items (random):

- aggressive drivers
- distracted drivers (drivers who are busy with something else, e.g. phone, tuning the radio etc)
- road users who don't respect traffic rules
- speeding drivers / drivers who drive too fast
- drivers who drive too slow
- drivers who don't leave a safe distance to the car in front
- careless drivers (e.g., not indicating direction)
- drivers who don't take into account the needs of other road users (e.g., blocking an exit etc)
- drivers committing dangerous driving offences

**Q20) Do you think the occurrence of the following behaviour has increased, decreased or not changed compared to 2 years ago?**

Answering options: *increased* – no change – decreased

Items (random): idem Q19

### Involvement in road crashes

**Q21a) In the past three months have you been involved in a road traffic accident as a …** (if no accident: answering option: 'none of these')

Items (multiple responses possible; only items indicated in Q5a are displayed):

Extra sub-items for

- motorcycling: motorcyclist (50-125 cc) – motorcyclist (>125 cc)
- public transport: on the train – on the subway – on a tram – on the bus

**Q21b) Please indicate the severity of the accident:**

Answering options (multiple responses possible per transport mode (i.e.; if a respondent had multiple accidents as pedestrian e.g. )): Without material damage or any injured parties[9] – With only material damage – With only minor injuries to myself or others – In which someone had to be taken to hospital

[9] *This option refers to an 'incident', not a crash → left out in the analysis*

Items: each transport mode indicated in Q21a

## Enforcement

If Q3 = 'No' → Q23

**Q22) On a typical journey, how likely is it that you (as a driver) will be checked by the police for ….?**
**You can indicate your answer on a scale from 1 to 5, where 1 is 'very small chance' and 5 is 'very big chance'. The numbers in between can be used to refine your response. (+ option: don't know/no response)**
Binary variable: *big chance (4-5)* – small chance (1-3)
Items (random):
- … alcohol, in other words, being subjected to a Breathalyser test
- … the use of illegal drugs
- … seat belt wearing
- … respecting the speed limits (including checks by police car with a camera and/or flash cameras)

**Q23a) In the past 12 months, how many times have you…**
Answering options: number + don't know/no response
Items:
- been stopped by the police for a check?
- had to pay a fine for a traffic violation? (except a parking fee)
- been convicted at court for a traffic violation?

**Q23b) Was this a fine for ….**
Items (multiple responses possible): violating the speed limits – driving under the influence of alcohol – driving under the influence of drugs (other than medication) – not wearing a seat belt – transporting children in the car without securing them correctly (child's car seat, seat belt, etc.) – talking on a hand-held mobile phone while driving – other reason – no response

**Q23c) Was this conviction for ….**
Items (multiple responses possible): idem Q23b

only show Q24 & Q25 to respondents who have driven a car in the last 12 months

**Q24) In the past 12 months, how many times were you checked by the police for alcohol while driving a car (i.e., being subjected to a Breathalyser test) ? ___**
Binary variable: *at least once* - never

**Q25) In the past 12 months, how many times have you been checked by the police for the use of drugs/medication while driving? ___**
Binary variable: *at least once* - never

## Socio-demographic information (2)

**Q26) What is the highest qualification or educational certificate you obtained?**
Items: None – Primary education – Secondary education – Bachelor's degree or similar – Master's degree or higher – No answer

**Q27) What is the postal code of the municipality in which you live?**[10]

[10] *If in a country no postal codes are in use, this question is rephrased as follows: In which county do you live?*

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## E-Survey of Road users' Attitudes