

Risky Behaviours & Safety Perception of Moped Riders and Motorcyclists Globally

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Background (1/2)

- Mopeds and motorcycles form an **important component of the transport system**, as they offer increased mobility at a reduced cost and a special sense of pleasure.
- However, riding a moped or a motorcycle is much **more dangerous** than using other motor vehicles.
- Mopeds and motorcycles accounted for **18%** of overall road fatalities in EU countries during the period 2018-2020 (EC, 2023).
- Globally, users of motorised two- and three- wheelers represent **21%** of all road fatalities (WHO, 2023).
- The global share of fatalities has **fallen by 2%** among two- and three-wheeler users since 2010 (WHO, 2023).
- These **alarming numbers** of potentially avoidable deaths highlight the need for increased attention to mopeds and motorcyclists.



Background (2/2)

- **Vehicle age** and the **lack of helmet** use have been found to have an impact on increased crash severity (Ziakopoulos et al., 2018).
- **Behavioural issues** play a major role in motorcycle crashes.
- **Risk taking and sensation seeking** are typical behaviours of riders that are usually expressed through:
 - speeding
 - disobeying traffic signals and signs
 - ignoring overtaking restrictions or pedestrian crossings
 - maintaining short distances with the vehicles ahead of them
- Moped riders & motorcyclists' behaviour is related to **age and riding exposure**. Moped riders and motorcyclists that speed appear to be more often younger and male (Vlahogianni et al., 2012).



Objectives

- This research seeks to elucidate **performance and attitudes of mopeds and motorcyclists** regarding road safety in 39 countries (22 European, 8 American, 9 Asian-Oceanian).
- Make **comparisons** between countries/regions and demographic characteristics.
- Identify which **factors** are related to moped riders and motorcyclists' self-declared behaviour based on statistical modelling.
- Provide certain **recommendations** for road safety stakeholders at different levels which could be implemented in efforts to enhance moped riders' and motorcyclists' road safety.

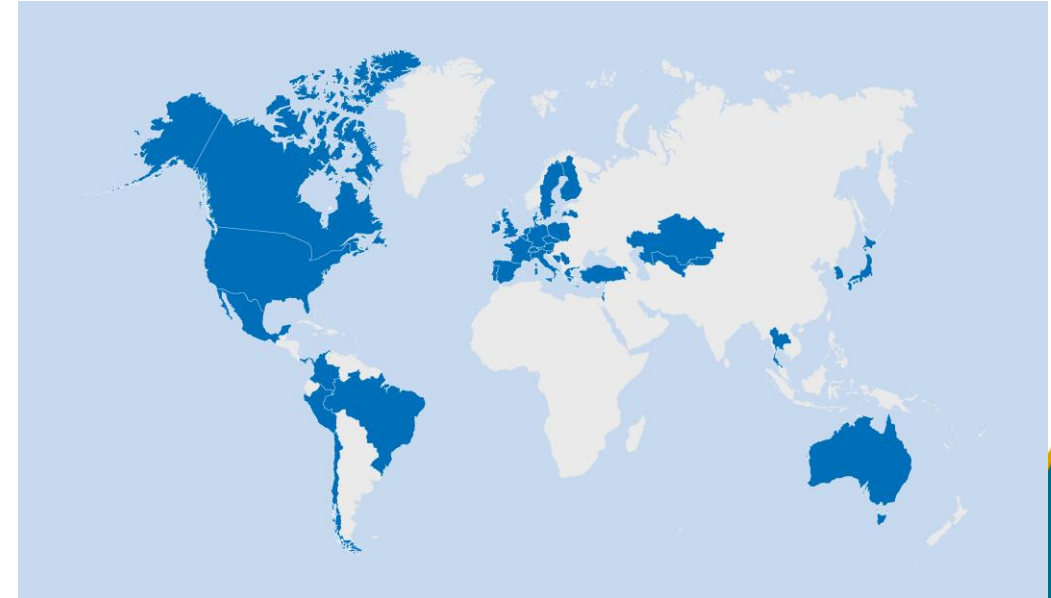


The ESRA project

- **ESRA** (E-Survey of Road users' Attitudes) is a joint international initiative of research centers and road safety institutes across the world
- **Duration** of the third edition of the project (ESRA3): 3 years (2022-2024)
- **ESRA3 Steering Committee:**
 - ESRA coordination: VIAS Institute (BE)
 - ESRA3 steering group partners: BAST (DE), IATSS (JA), UGE (FR), ITS (PO), KfV (AT), **NTUA (EL)**, PRP (PT), SWOV (NL), TIRF (CA), DTU (DK)



<https://www.esranet.eu/>



Frequency of using a moped or a motorcycle

"During the past 12 months, how often did you drive a **moped** (≤ 50 cc or ≤ 4 kW; non-electric)?"

Country	at least 4 days a week	1 to 3 days a week	a few days a month	a few days a year	never
Armenia	0.0%	0.0%	0.4%	1.1%	98.5%
Australia	2.4%	9.1%	11.0%	5.8%	71.7%
Austria	1.1%	1.3%	2.6%	4.7%	90.3%
Belgium	2.1%	3.5%	3.7%	4.2%	86.4%
Bosnia and Herzegovina	2.0%	2.4%	3.5%	14.0%	78.1%
Brazil	2.4%	4.4%	6.9%	11.0%	75.3%
Canada	1.1%	3.3%	3.8%	3.1%	88.7%
Chile	0.9%	1.5%	3.0%	3.4%	91.1%
Colombia	2.7%	3.6%	5.3%	8.2%	80.1%
Czech Republic	0.7%	1.1%	2.9%	5.5%	89.8%
Denmark	2.8%	4.2%	3.8%	4.8%	84.5%
Finland	0.7%	2.1%	3.2%	11.0%	82.9%
France	1.7%	5.7%	7.3%	5.0%	80.3%
Germany	1.3%	6.3%	5.5%	5.0%	81.8%
Greece	4.4%	2.7%	3.8%	11.2%	77.9%
Ireland	1.0%	2.4%	1.8%	2.3%	92.5%
Israel	0.3%	0.5%	1.4%	2.5%	95.3%
Italy	2.7%	5.5%	6.2%	7.6%	78.0%
Japan	1.6%	2.3%	1.9%	1.1%	93.1%
Kazakhstan	1.0%	0.5%	2.2%	7.6%	88.7%
Kyrgyzstan	0.4%	0.2%	0.4%	1.1%	97.9%
Latvia	0.3%	0.5%	0.9%	5.3%	92.9%
Luxembourg	1.1%	1.3%	1.0%	3.0%	93.6%
Mexico	1.6%	3.0%	3.9%	4.5%	87.0%
Netherlands	2.4%	5.6%	4.1%	5.8%	82.1%
Panama	0.8%	1.1%	3.5%	6.4%	88.2%
Peru	1.6%	3.2%	4.1%	8.4%	82.8%
Poland	0.8%	2.1%	3.8%	9.5%	83.8%
Portugal	1.2%	1.3%	2.7%	8.1%	86.7%
Serbia	1.1%	1.1%	2.8%	9.4%	85.6%
Slovenia	2.7%	3.2%	4.4%	9.9%	79.7%
Spain	1.5%	3.0%	4.4%	5.8%	85.2%
Sweden	1.2%	2.3%	3.2%	5.5%	87.7%
Switzerland	1.4%	5.4%	7.6%	4.8%	80.8%
Thailand	16.3%	15.6%	11.0%	6.6%	50.5%
Türkiye	3.0%	6.5%	9.5%	9.8%	71.2%
United Kingdom	2.1%	8.3%	6.4%	2.6%	80.6%
United States	4.9%	15.4%	17.8%	7.3%	54.5%
Uzbekistan	1.2%	1.9%	1.9%	1.9%	93.1%
Region	at least 4 days a week	1 to 3 days a week	a few days a month	a few days a year	never
Europe22	1.7%	4.9%	5.2%	5.9%	82.3%
America8	3.2%	8.7%	10.7%	7.5%	69.9%
AsiaOceania6*	5.1%	6.5%	6.3%	5.0%	77.1%

* Not including Armenia, Kyrgyzstan, Uzbekistan (different methodology)

"During the past 12 months, how often did you drive a **motorcycle** (> 50 cc or > 4 kW)"

Country	at least 4 days a week	1 to 3 days a week	a few days a month	a few days a year	never
Armenia	0.0%	0.2%	1.1%	1.1%	97.6%
Australia	3.0%	11.3%	12.6%	5.6%	67.5%
Austria	1.2%	2.4%	4.7%	5.1%	86.6%
Belgium	2.1%	3.7%	4.5%	3.7%	86.0%
Bosnia and Herzegovina	2.5%	2.3%	2.9%	15.4%	76.9%
Brazil	7.4%	8.7%	12.8%	11.2%	59.8%
Canada	1.7%	3.6%	4.7%	4.4%	85.7%
Chile	1.2%	2.9%	5.2%	6.3%	84.3%
Colombia	9.7%	9.6%	9.5%	11.1%	60.1%
Czech Republic	0.5%	1.9%	3.5%	7.5%	86.6%
Denmark	2.2%	3.1%	4.8%	4.0%	85.9%
Finland	0.7%	3.7%	2.6%	6.2%	86.8%
France	2.6%	6.4%	7.8%	5.7%	77.6%
Germany	2.1%	4.8%	5.7%	5.5%	82.0%
Greece	8.5%	4.9%	4.3%	12.1%	70.2%
Ireland	1.3%	1.7%	2.3%	3.5%	91.2%
Israel	0.8%	0.9%	0.7%	3.0%	94.5%
Italy	4.1%	8.4%	8.0%	5.9%	73.6%
Japan	1.0%	2.4%	2.0%	1.8%	92.9%
Kazakhstan	1.2%	0.9%	1.8%	7.7%	88.5%
Kyrgyzstan	0.2%	0.2%	0.2%	0.9%	98.5%
Latvia	0.8%	0.8%	2.1%	4.4%	91.9%
Luxembourg	1.6%	1.8%	4.4%	4.8%	87.4%
Mexico	4.0%	6.7%	7.8%	8.2%	73.3%
Netherlands	3.0%	4.2%	4.9%	4.9%	83.1%
Panama	1.7%	1.5%	5.0%	7.7%	84.1%
Peru	6.3%	7.8%	9.4%	11.1%	65.4%
Poland	1.0%	1.9%	5.0%	9.3%	82.8%
Portugal	1.7%	1.6%	3.5%	8.7%	84.4%
Serbia	0.9%	1.1%	3.5%	10.4%	84.1%
Slovenia	2.8%	3.4%	6.3%	9.1%	78.3%
Spain	3.3%	4.5%	5.4%	7.2%	79.6%
Sweden	1.2%	2.3%	2.8%	5.2%	88.5%
Switzerland	2.7%	6.5%	9.1%	6.1%	75.7%
Thailand	31.4%	22.6%	12.9%	5.5%	27.6%
Türkiye	4.7%	8.9%	11.4%	12.8%	62.3%
United Kingdom	3.3%	8.6%	6.0%	2.5%	79.6%
United States	6.8%	13.8%	18.2%	7.8%	53.4%
Uzbekistan	2.0%	1.2%	2.2%	1.9%	92.8%
Region	at least 4 days a week	1 to 3 days a week	a few days a month	a few days a year	never
Europe22	2.7%	5.3%	5.9%	6.0%	80.2%
America8	6.2%	10.1%	13.4%	8.8%	61.5%
AsiaOceania6*	8.6%	8.8%	7.3%	5.7%	69.6%

* Not including Armenia, Kyrgyzstan, Uzbekistan (different methodology)

- The use of a moped/motorcycle as a transport mode is **more widespread** in America and Asia-Oceania.
- The countries with the **most frequent use** (at least 4 days a week) of mopeds and motorcycles are Thailand and Greece.



Safety perception of using a moped or a motorcycle

- In all the examined countries the safety perception scores for moped riders and motorcyclists **do not exceed 8 points**.
- The country with the **lowest** scores for both moped and motorcycles is **Kyrgyzstan** (3.9 for mopeds and 3.8 for motorcycles).
- Among European countries, the lowest safety perception scores for mopeds correspond to **Greece, Serbia, and Spain (5.2)**.
- Among European countries, the lowest safety perception scores for motorcycles correspond to **Greece (5.1)**.

Country	Moped (≤50cc or ≤4kW)	Motorcycle (>50cc or >4kW)	Be a passenger on a moped or motorcycle
Armenia	4.7	6.8	3.3
Australia	7.1	7.3	7.2
Austria	6.1	6.4	5.5
Belgium	6.0	6.1	5.8
Bosnia and Herzegovina	5.8	5.2	4.7
Brazil	5.9	5.7	5.2
Canada	6.4	6.2	6.0
Chile	4.8	5.0	4.3
Colombia	5.0	5.3	4.6
Czech Republic	5.5	5.5	4.6
Denmark	6.1	6.1	5.6
Finland	6.5	6.1	5.9
France	7.0	6.5	6.6
Germany	6.4	6.3	6.4
Greece	5.2	5.1	4.6
Ireland	5.7	6.3	5.3
Israel	5.2	4.6	4.5
Italy	5.6	5.8	4.9
Japan	4.9	4.4	4.4
Kazakhstan	5.4	5.3	5.0
Kyrgyzstan	3.9	3.8	4.9
Latvia	5.7	6.2	4.9
Luxembourg	5.5	6.0	5.1
Mexico	5.3	5.5	5.0
Netherlands	5.8	5.5	5.6
Panama	4.8	4.7	4.1
Peru	4.8	4.9	4.2
Poland	5.4	5.2	4.7
Portugal	6.2	6.1	6.0
Serbia	5.2	5.4	4.5
Slovenia	5.3	5.4	4.4
Spain	5.2	5.5	5.2
Sweden	6.1	6.0	5.1
Switzerland	6.2	6.5	6.3
Thailand	6.7	6.6	6.3
Türkiye	5.3	5.0	4.9
United Kingdom	5.9	5.7	6.3
United States	7.8	7.6	7.5
Uzbekistan	5.4	5.0	6.2
Region	Moped (≤50cc or ≤4kW)	Motorcycle (>50cc or >4kW)	Be a passenger on a moped or motorcycle
Europe22	6.0	5.9	5.6
America8	7.0	6.6	6.1
AsiaOceania6*	6.1	6.0	5.8

* Not including Armenia, Kyrgyzstan, Uzbekistan (different methodology)

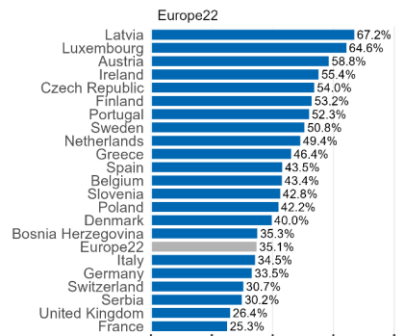
Table: Average safety perception of using moped and motorcycle by country (11-point scale from 0= very unsafe to 10= very safe)



Self-declared behaviours by country and region

SELF-DECLARED BEHAVIOUR AS A MOTORCYCLIST OR MOPED RIDER

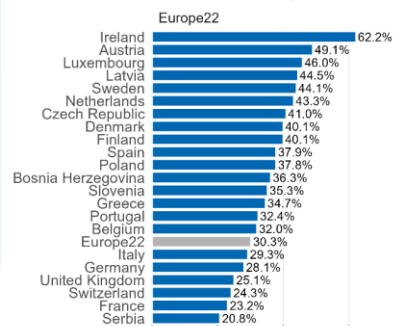
Ride faster than the speed limit outside built-up areas (except motorways/freeways)



Reference population: motorcyclists and moped riders at least a few days a month, *not in regional mean (different methodology)

SELF-DECLARED BEHAVIOUR AS A MOTORCYCLIST OR MOPED RIDER

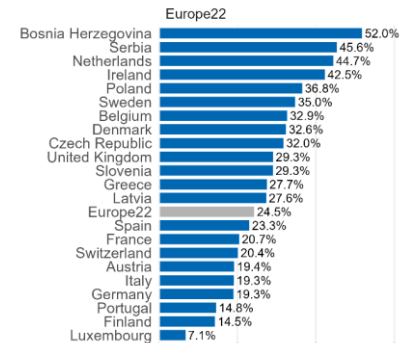
Ride too fast for the road/traffic conditions at the time (e.g., poor visibility, dense traffic, presence of vulnerable road users)



Reference population: motorcyclists and moped riders at least a few days a month, *not in regional mean (different methodology)

SELF-DECLARED BEHAVIOUR AS A MOTORCYCLIST OR MOPED RIDER

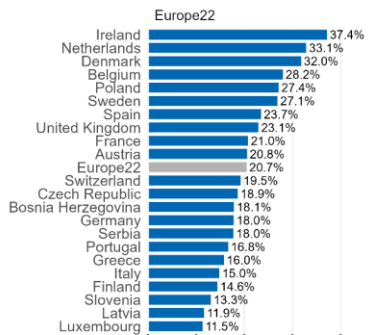
Ride without a helmet



Reference population: motorcyclists and moped riders at least a few days a month, *not in regional mean (different methodology)

SELF-DECLARED BEHAVIOUR AS A MOTORCYCLIST OR MOPED RIDER

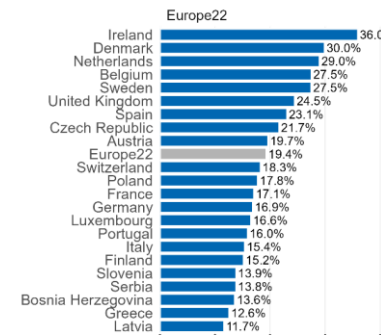
Read a message or check social media/news while riding



Reference population: motorcyclists and moped riders at least a few days a month, *not in regional mean (different methodology)

SELF-DECLARED BEHAVIOUR AS A MOTORCYCLIST OR MOPED RIDER

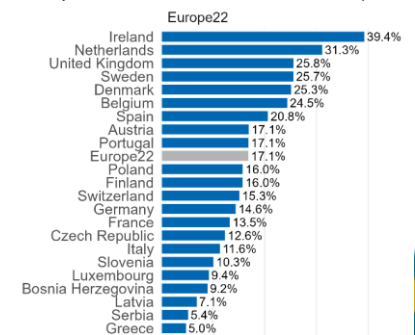
Ride when you may have been over the legal limit for drinking and driving



Reference population: motorcyclists and moped riders at least a few days a month, *not in regional mean (different methodology)

SELF-DECLARED BEHAVIOUR AS A MOTORCYCLIST OR MOPED RIDER

Ride within 1 hour after taking drugs (other than prescribed or over the counter medication)



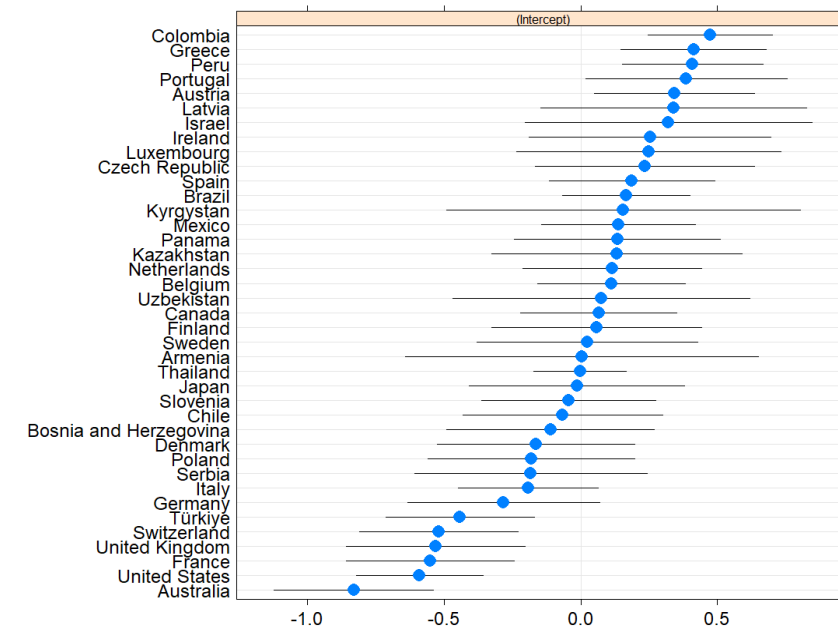
Reference population: motorcyclists and moped riders at least a few days a month, *not in regional mean (different methodology)



Speeding outside built-up areas (but not on motorways/freeways)

- **Women** are 37% less likely to report speeding outside built-up areas (except motorways/freeways) when compared to men.
- Moped riders and motorcyclists who are currently **students** are 24% more likely to commit such behaviour compared to people that are not students.
- Respondents who **support** the legal obligation of limiting the speed limit to a maximum of 80 km/h on all rural roads without a median strip are 46% less likely for self-declared speeding outside built-up areas (except motorways/freeways) than people who are opposed to this statement.
- People who believe that this behaviour is **acceptable** are more than 9 times more likely to commit such behaviour.

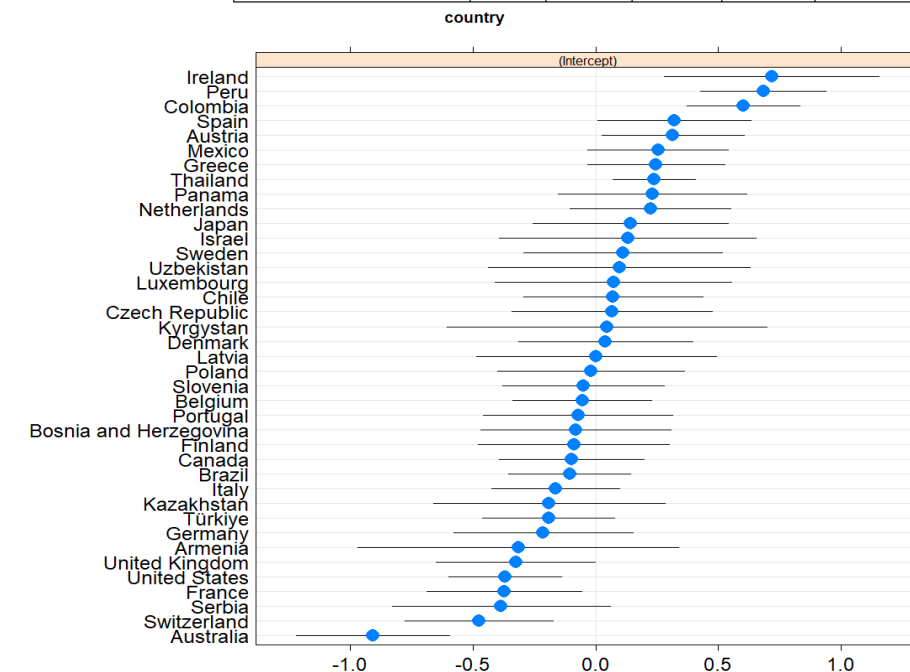
Independent variable (reference category)	Dependent variable: self-declared behaviour (past 30 days) – ride faster than the speed limit outside built-up areas (except motorways/freeways) {0=never; 1=at least once}				
	Beta Estimate	S.E.	z-value	P(> z)	Adj. Odds Ratio
(Intercept)	-0.121	0.105	-1.157	0.247	-
Gender (ref. Male)					
Female	-0.454	0.063	-7.219	<0.001	0.635
Are you currently a student? (ref: No)					
Yes	0.215	0.075	2.870	0.004	1.240
Do you oppose or support a legal obligation ...? limiting the speed limit to a maximum of 80 km/h on all rural roads without a median strip (ref: oppose/neutral)					
Support	-0.616	0.061	-10.117	<0.001	0.540
How acceptable do you, personally, feel it is for a MOPED RIDER or MOTORCYCLIST to ...? ride faster than the speed limit outside built-up areas (except motorways/freeways) (ref: unacceptable/neutral)					
Acceptable	2.254	0.107	20.977	<0.001	9.526
Urbanization level (ref: Rural)					
Urban/ semi-urban	-0.139	0.085	-1.640	0.101	0.870



Riding too fast for the road/traffic conditions at the time

- **Women** are 36% less likely to report riding too fast for the road/traffic conditions at the time (e.g., poor visibility, dense traffic, presence of vulnerable road users) when compared to men.
- Respondents **aged over 35 years** are less likely to report this driving behaviour when compared to people aged 18-34 years.
- Individuals who **support** the legal obligation of limiting the speed limit to 30km/h in all built-up areas (except on main thoroughfares) are 43% less likely to adopt this driver behaviour than people opposed to this statement.
- People who believe that this behaviour is **acceptable** are over 6 times more likely to commit such behaviour.

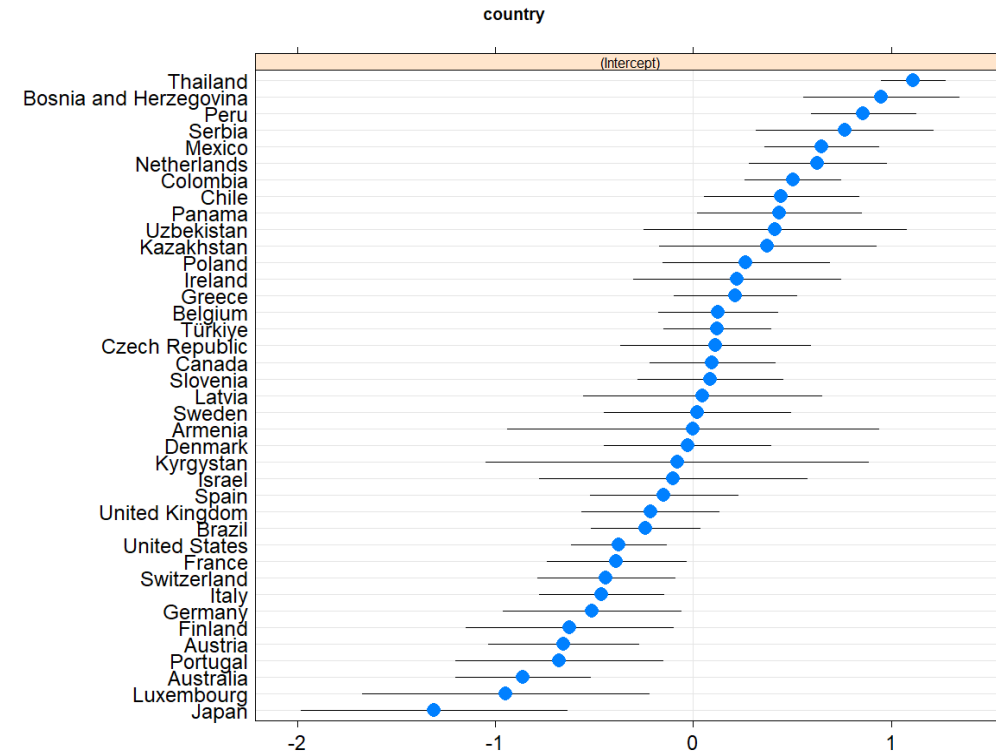
Independent variable (reference category)	Dependent variable: self-declared behaviour (past 30 days) – ride too fast for the road/traffic conditions at the time (e.g., poor visibility, dense traffic, presence of vulnerable road users) {0=never; 1=at least once}				
	Beta Estimate	S.E.	z-value	P(> z)	Adj. Odds Ratio
(Intercept)	-0.443	0.084	-5.256	<0.001	-
Gender (ref: Male)					
Female	-0.437	0.065	-6.764	<0.001	0.646
Age (ref: 18-34)					
35-54	-0.147	0.064	-2.273	0.023	0.863
55-74	-0.362	0.095	-3.826	<0.001	0.696
Do you oppose or support a legal obligation ...? limiting the speed limit to 30 km/h in all built-up areas (except on main thoroughfares) (ref: oppose/neutral)					
Support	-0.563	0.062	-9.118	<0.001	0.569
How acceptable do you, personally, feel it is for a MOPED RIDER or MOTORCYCLIST to ...? ride faster than the speed limit outside built-up areas (except motorways/freeways) (ref: unacceptable/neutral)					
Acceptable	1.865	0.093	20.144	<0.001	6.456



Riding without a helmet

- Respondents aged **over 35 years** old are less likely to report not wearing a helmet on a moped or motorcycle when compared to people aged 18-34 years old.
- People who believe that this behaviour is **acceptable** are almost 11 times more likely to commit such behaviour.
- Moped riders and motorcyclists living **inside urban or semi-urban areas** are 24% less likely to ride without a helmet compared to those who live in rural areas.

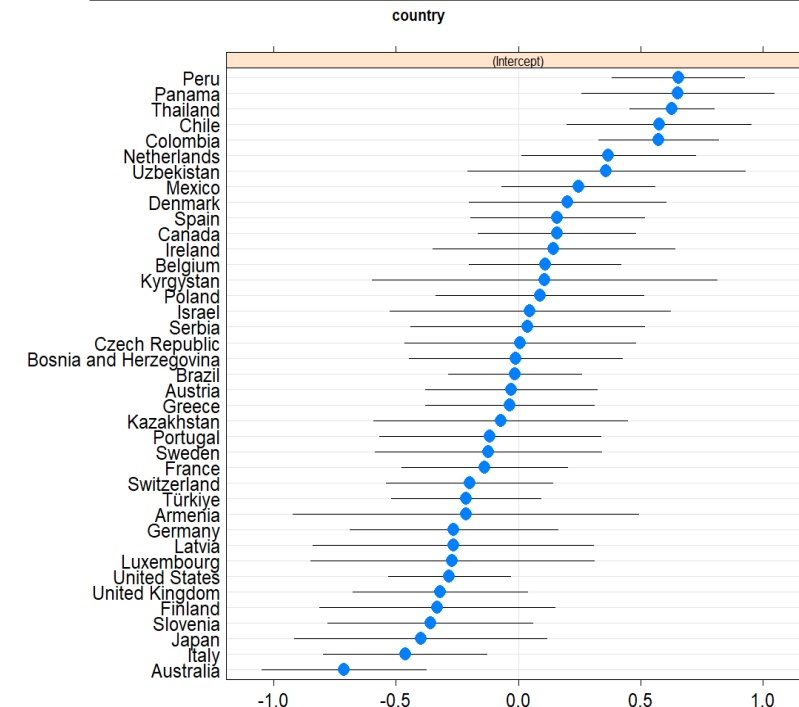
Independent variable (reference category)	Dependent variable: self-declared behaviour (past 30 days) – not wear a helmet on a moped or motorcycle {0=never; 1=at least once}				
	Beta Estimate	S.E.	z-value	P(> z)	Adj. Odds Ratio
(Intercept)	-0.741	0.131	-5.652	<0.001	-
Age (ref: 18-34)					
35-54	-0.317	0.066	-4.789	<0.001	0.728
55-74	-0.618	0.102	-6.046	<0.001	0.539
How acceptable do you, personally, feel it is for a MOPED RIDER or MOTORCYCLIST to ...? not wear a helmet on a moped or motorcycle (ref: unacceptable/ neutral)					
Acceptable	2.395	0.118	20.330	<0.001	10.968
Urbanization level (ref: Rural)					
Urban/ semi-urban	-0.275	0.088	-3.131	0.002	0.760



Reading a text message/email or checking social media while riding

- **Women** are 14% less likely to report reading a message or check social media/news while riding when compared to men.
- People **aged over 35 years old** are less likely to report this driving behaviour when compared to people aged 18-34 years.
- Respondents who believe that this behaviour is **acceptable** are almost 18 times more likely to commit such behaviour.
- Moped riders and motorcyclists who have been **personally involved in a road crash** where at least one person was injured (light, severe or fatal crashes) are 74% more likely to read a message or check social media/news while riding.

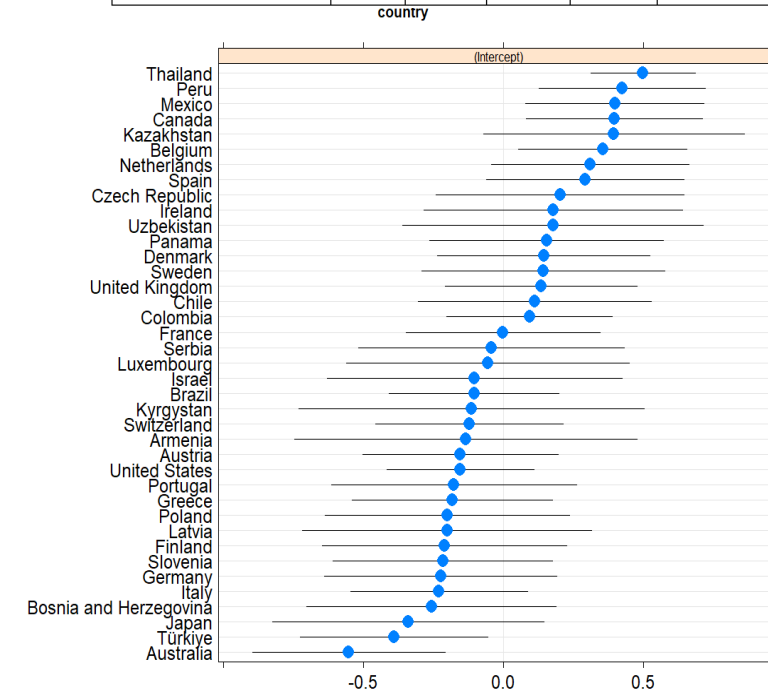
Independent variable (reference category)	Dependent variable: self-declared behaviour (past 30 days) – read a message or check social media/news while riding {0=never; 1=at least once}				
	Beta Estimate	S.E.	z-value	P(> z)	Adj. Odds Ratio
(Intercept)	-1.198	0.086	-13.893	<0.001	-
Gender (ref: Male)					
Female	-0.148	0.071	-2.094	0.036	0.862
Age (ref: 18-34)					
35-54	-0.372	0.071	-5.241	<0.001	0.689
55-74	-1.114	0.127	-8.786	<0.001	0.328
How acceptable do you, personally, feel it is for a MOPED RIDER or MOTORCYCLIST to ...? read a message or check social media/news while riding (ref: unacceptable/neutral)					
Acceptable	2.889	0.137	21.095	<0.001	17.975
Motorcyclists/moped riders who have been personally involved in a road crash where at least one person was injured (light, severe or fatal crashes) (ref: No)					
Yes	0.551	0.164	3.365	<0.001	1.735



Drink and riding

- **Female moped riders and motorcyclists** are 23% less likely to report being over the legal limit for drinking and driving when compared to men.
- Moped riders and motorcyclists aged **over 35 years old** are less likely to commit such behaviour compared to people aged 18-34.
- Moped riders and motorcyclists who **support** the legal obligation of forbidding all drivers of motorized vehicles to drive with a blood alcohol concentration above 0.0% (zero tolerance) are 56% less likely to report self-declared drinking and riding than people who oppose to this statement.
- Respondents who believe that this behaviour is **acceptable** are almost 19 times more likely to commit such behaviour.

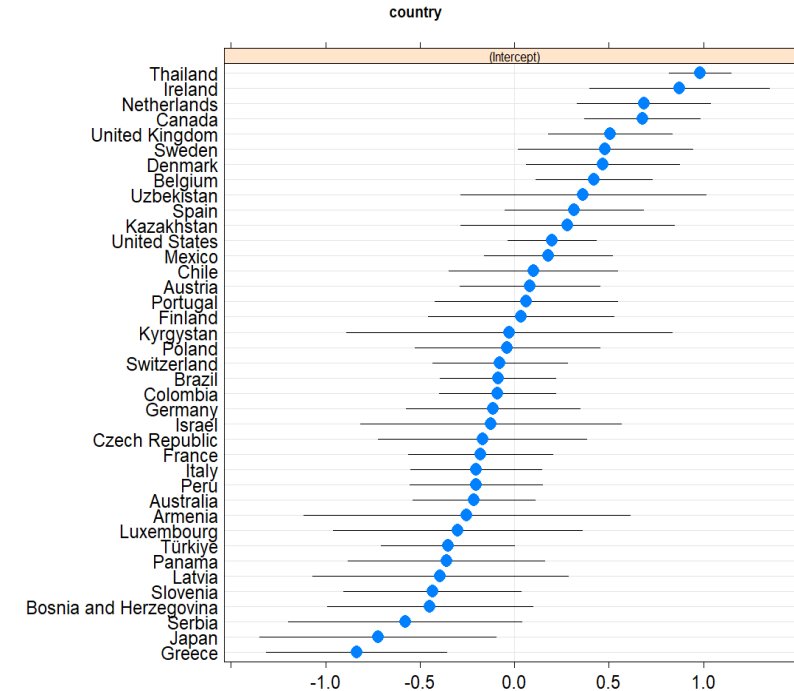
Independent variable (reference category)	Dependent variable: self-declared behaviour (past 30 days) – ride when you may have been over the legal limit for drinking and driving {0=never; 1=at least once}				
	Beta Estimate	S.E.	z-value	P(> z)	Adj. Odds Ratio
(Intercept)	-1.057	0.090	-11.707	<0.001	-
Gender (ref: Male)					
Female	-0.257	0.079	-3.261	0.001	0.773
Age (ref: 18-34)					
35-54	-0.178	0.077	-2.293	0.022	0.837
55-74	-0.590	0.126	-4.692	<0.001	0.554
Do you oppose or support the legal obligation of forbidding all drivers of motorized vehicles to drive with a blood alcohol concentration above 0.0% (zero tolerance) (ref: oppose)					
Support	-0.822	0.075	-10.995	<0.001	0.440
How acceptable do you, personally, feel it is for a MOPED RIDER or MOTORCYCLIST to ...? ride when he/she may have been over the legal limit for drinking and driving (ref: unacceptable)					
Acceptable	2.931	0.129	22.806	<0.001	18.746



Riding within 1 hour after taking drugs

- **Women** are 26% less likely to report riding within 1 hour after taking drugs (other than prescribed or over-the-counter medication) when compared to men.
- Respondents **aged over 55 years old** are less likely to report this behaviour when compared to people aged 18-34 years old.
- Moped riders and motorcyclists living in **urban or semi-urban** areas are 25% less likely to declare riding within 1 hour after taking drugs compared to those who live in rural areas.

Independent variable (reference category)	Dependent variable: self-declared behaviour (past 30 days) – ride within 1 hour after taking drugs (other than prescribed or over the counter medication) {0=never; 1=at least once}				
	Beta Estimate	S.E.	z-value	P(> z)	Adj. Odds Ratio
(Intercept)	-0.564	0.549	-1.026	0.305	-
Gender (ref: Male)					
Female	-0.295	0.074	-3.980	<0.001	0.745
Age (ref: 18-34)					
35-54	-0.088	0.073	-1.201	0.230	0.916
55-74	-0.611	0.125	-4.885	<0.001	0.543
What is the highest qualification or educational certificate that you have obtained? (ref: None)					
Primary education	-0.695	0.576	-1.206	0.223	0.499
Secondary education	-0.894	0.542	-1.648	0.099	0.409
Bachelor's degree or similar	-0.614	0.541	-1.135	0.256	0.541
Master's degree or higher	-0.513	0.544	-0.943	0.346	0.599
Urbanization level (ref: Rural)					
Urban/ semi-urban	-0.285	0.097	-2.928	0.003	0.752



Key results

- The use of mopeds and motorcycles as a transport mode is more **widespread in America** when compared to Europe and Asia-Oceania.
- In all the examined countries the safety perception scores for mopeds and motorcycles do not exceed 8 points. This fact indicates that road users **do not consider these transport modes to be safe enough**.
- Risky behaviours are more common among **male** moped riders and motorcyclists.
- The most frequent unsafe behaviours reported by moped riders and motorcyclists are **riding faster** than the speed limit outside built-up areas (but not on motorways) and riding **too fast for the road/traffic conditions at the time**.



Key recommendations

- The high percentages of self-declared risky behaviours by moped riders and motorcyclists impose **targeted measures** to improve their behaviour on the road.
- As risky behaviours are more common among male moped riders and motorcyclists, measures for the elimination of such behaviours should concern the general moped riders and motorcyclists' population but also particularly **target the male riders**.
- **Awareness raising campaigns** should be organised to explain the increased risk and vulnerability of moped riders or motorcyclists with the ultimate aim to develop a traffic safety culture promoting safety and mutual respect of all road users.
- **Moped riders and motorcyclists' safety enforcement** should be well-structured, systematic and visible.
- **Road infrastructure** should be adapted to particular moped riders and motorcyclists characteristics and needs (e.g. installation of friendly barriers for those users), creating a self-explaining and forgiving road environment.



Risky Behaviours & Safety Perception of Moped Riders and Motorcyclists Globally

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