



"Diversity in Traffic Culture and Unsafe Behavior"

26 November 2020

Global Diversity in Traffic Safety Culture

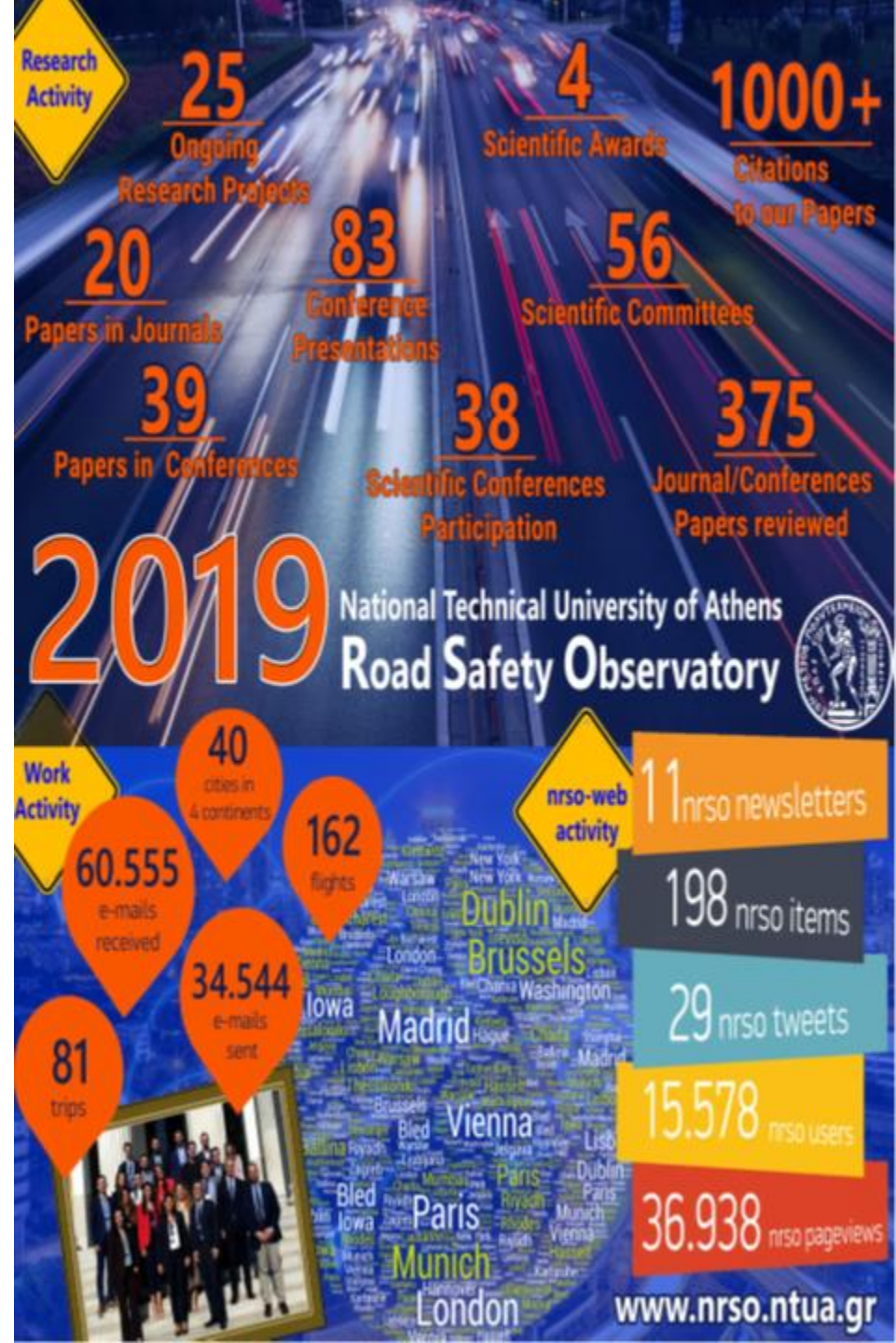
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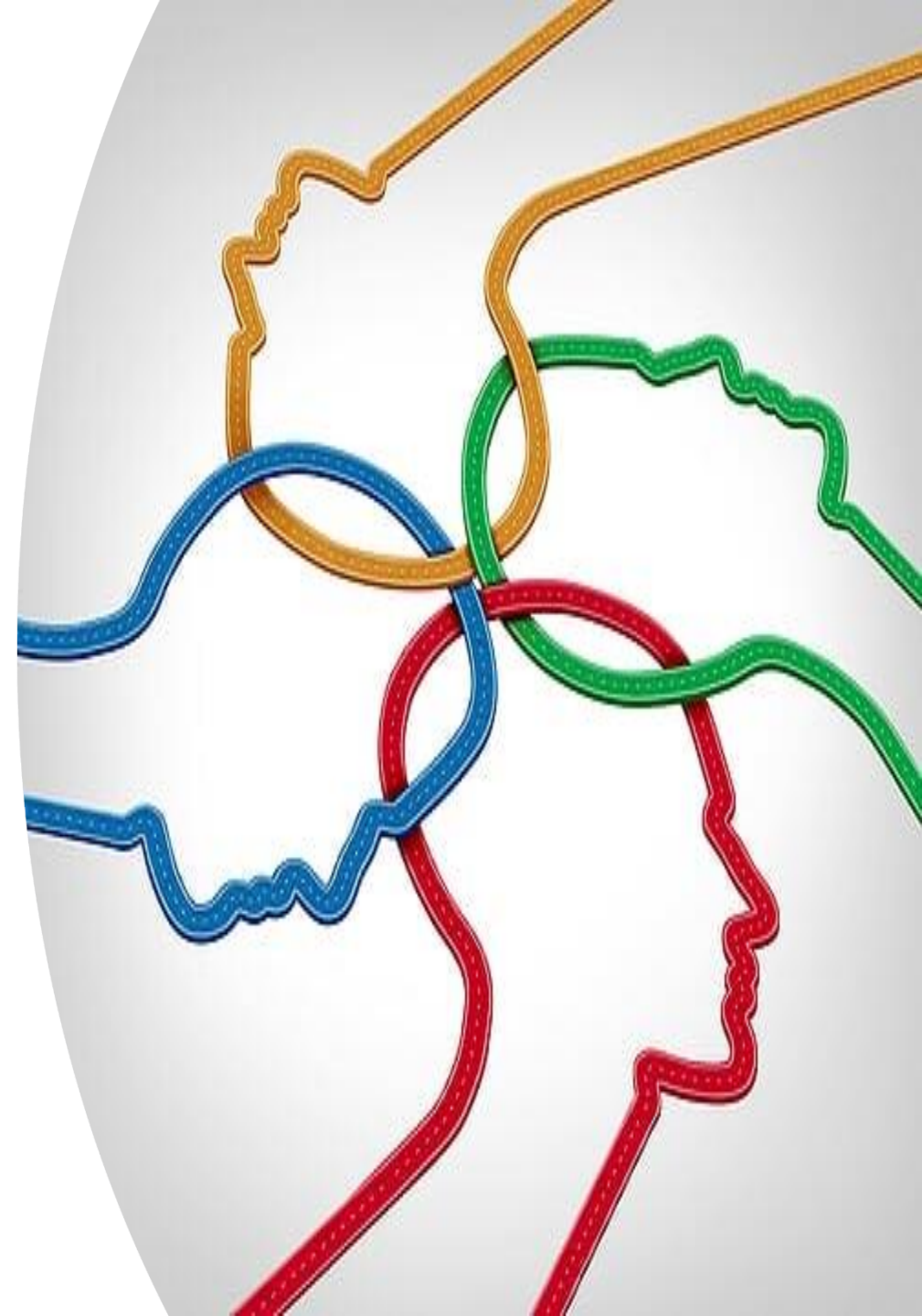
NTUA Road Safety Observatory

- The NTUA Road Safety Observatory (www.nrso.ntua.gr) is a **Center of Research and Innovation Excellence** in Road Safety, with global recognition [ranked: 2nd in Europe and 6th worldwide (AAP 2018)]
- A **team of 25+ scientists**, with internationally recognized Professors, Post Doctoral Researchers, PhD Candidates & Transportation Engineers
- An international **reference website – information system** with state-of-the-art road safety data and knowledge with:
 - more than 3.000 visits per month
 - tens of tweets and social media posts annually
 - more than 100 electronic newsletters since 2004
- An excellent **research activity**:
 - More than 100 Diploma Theses & 6 PhD Theses
 - More than 100 research projects, mostly through highly competitive procedures
 - More than 600 scientific publications (> 200 in journals), widely cited worldwide
 - More than 100 scientific committees
 - International collaborations: European Commission, UN/ECE, OECD/ITF, WHO, World Bank, EIB, CEDR, FEHRL, ERF, IRF, UITP, ETSC, WCTR, TRB, decades of universities and Research Centers



Presentation Outline

1. Global Road Safety Statistics
2. Objective and Source of Data
3. Regional Comparisons
4. Concluding Remarks

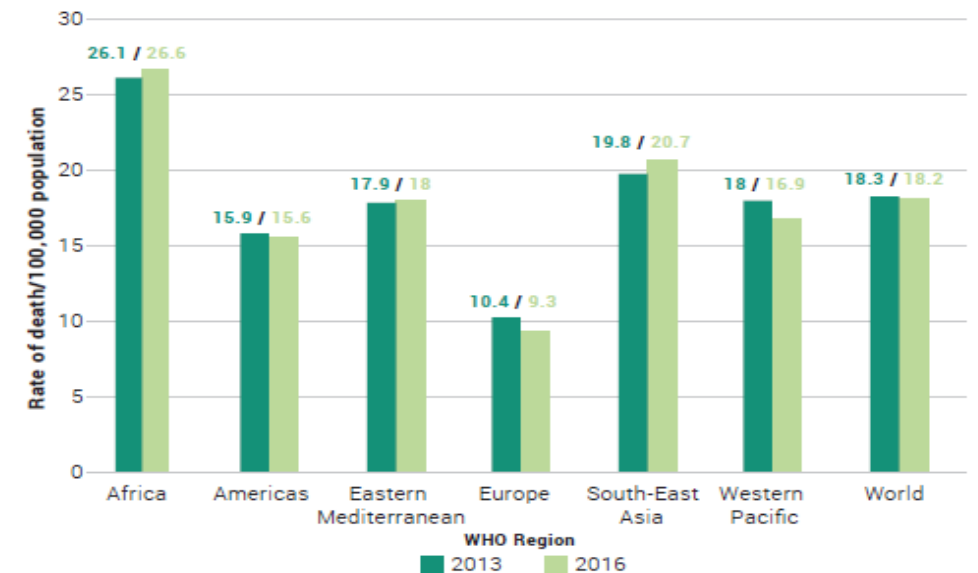
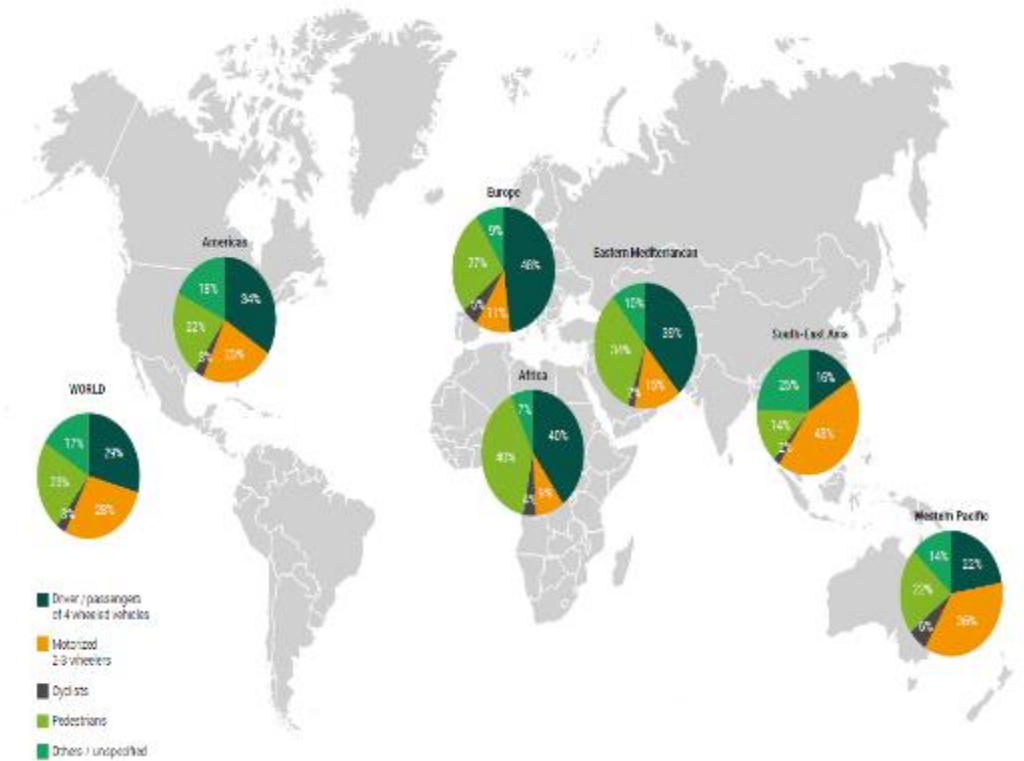


Global Road Safety Statistics



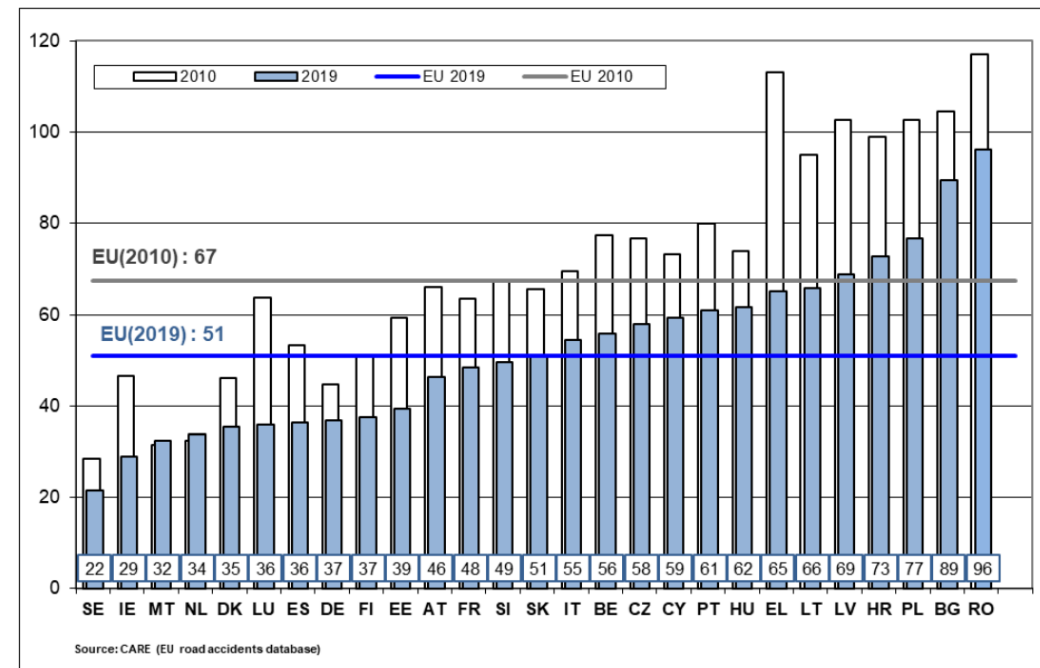
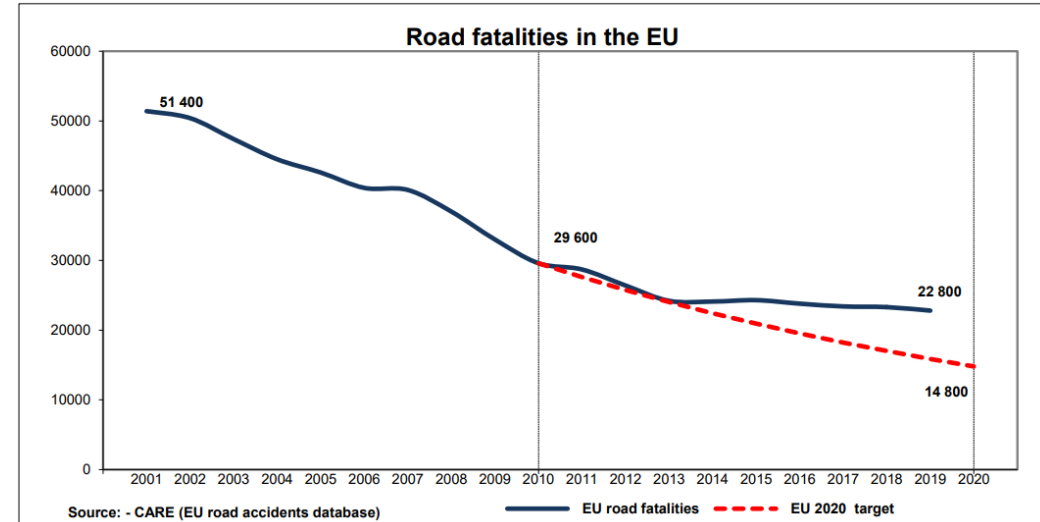
Road Safety Worldwide

- **1.35 million people are killed** in road accidents worldwide.
- Road accidents constitute the **8th cause of death** and the first cause of death among people aged 5-29 years old.
- **Europe** presents the lowest traffic fatality rate per population globally.
- **Africa** has the worst road safety performance (up to 10 times more fatalities per population compared to the best performing European countries).
- The percentage of **VRUs' fatalities** in road accidents worldwide is especially high (54%).



Road Safety in the European Union

- In 2019, almost **22,800 fatalities in road accidents** were recorded in the EU, global leading performance with 51 fatalities per million population.
- The target of halving road accident fatalities between 2010 and 2020 is **unlikely to be achieved**.
- Great **discrepancies in road safety performance** exist among the 27 EU countries.
- More **coordinated efforts** are required at all levels in order to achieve the targets set.



Objective and Source of Data



Objective

- To capture the **global diversity in traffic safety culture and behavior** of road users, which defines the mobility patterns and consequently the respective road safety situation.
- To that end, data derived from the second edition of the **ESRA survey** on road safety situation and culture indicated by the road users' behaviors, attitudes and beliefs were used for the regions' comparison.



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
- The project now is in its **second stage** (ESRA2, 2018-2020)
- **Project partners:**
 - ESRA coordination: Vias Institute (BE)
 - ESRA2 core group partners: BAST (DE), bfu (CH), CTL (IT), IATSS (JA), ITS (PO), KFV (AT), **NTUA (EL)**, PRP (PT), SWOV (NL), TIRF (CA)
 - 17 more supporting partners
- ESRA2 data used for the investigation of Global Diversity in Traffic Safety Culture **include** 20 European, 2 North American, 5 African and 5 Asian-Oceanian countries.



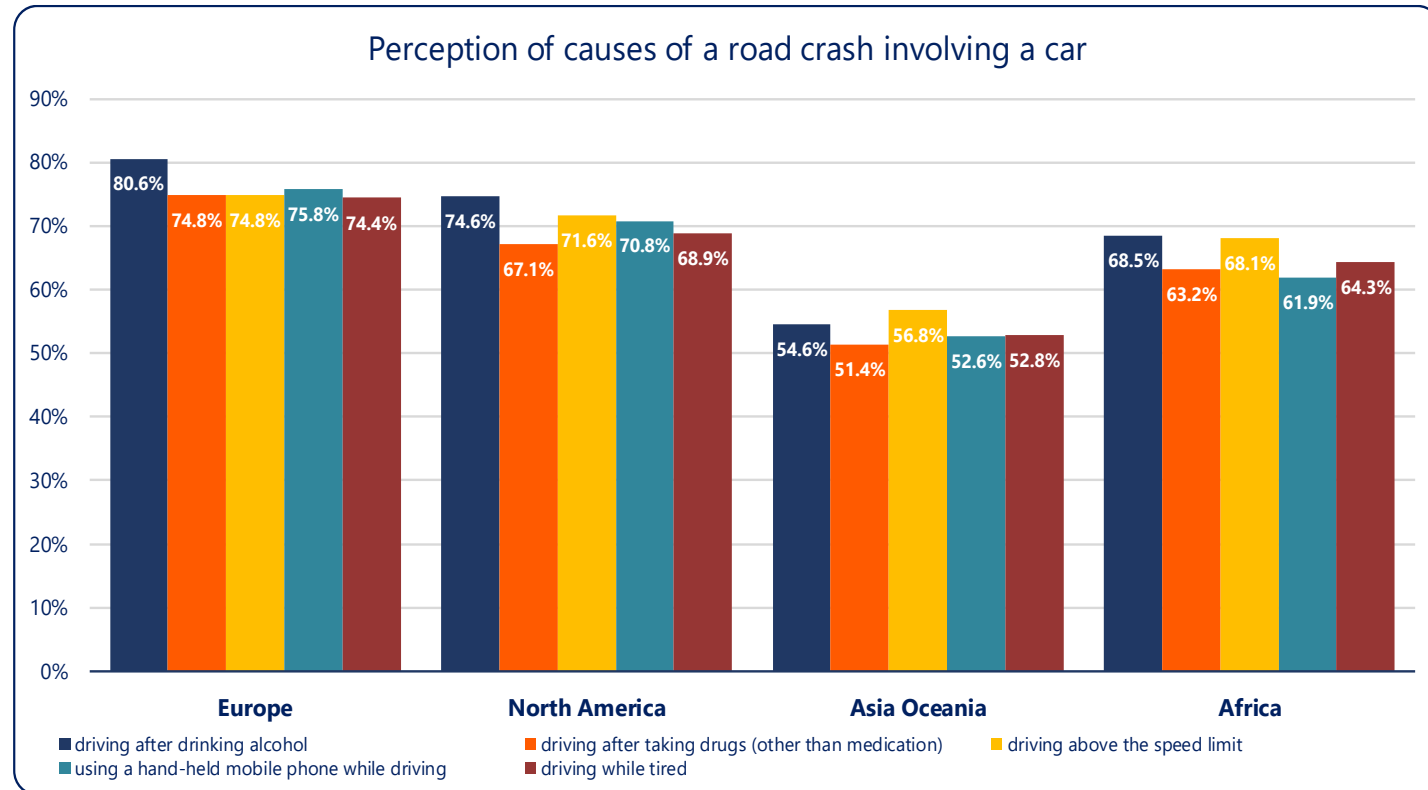
Regional Comparisons



Perception of the relative importance of causes of road crashes

- Most respondents from all regions believe that unsafe traffic behaviors **are often a cause** of a road crash involving a car.
- The risk perception of the unsafe behaviors as a frequent crash cause was the **highest in Europe** (from 74% for fatigued driving to 81% for drink-driving).
- The **lowest rates** were recorded in Asia-Oceania (from 51% for driving after taking drugs to 57% for driving above the speed limit).
- In **North America**, the rates ranged from 67% (driving after taking drugs) to 75% (drink-driving) and from 62% (using hand-held mobile phone while driving) to 69% (drink-driving) in **Africa**.

"How often do you think each of the following factors is the cause of a road crash involving a car? -%often/frequently- scores 4 to 6 on a 6-point scale from 1=never to 6=[almost] always



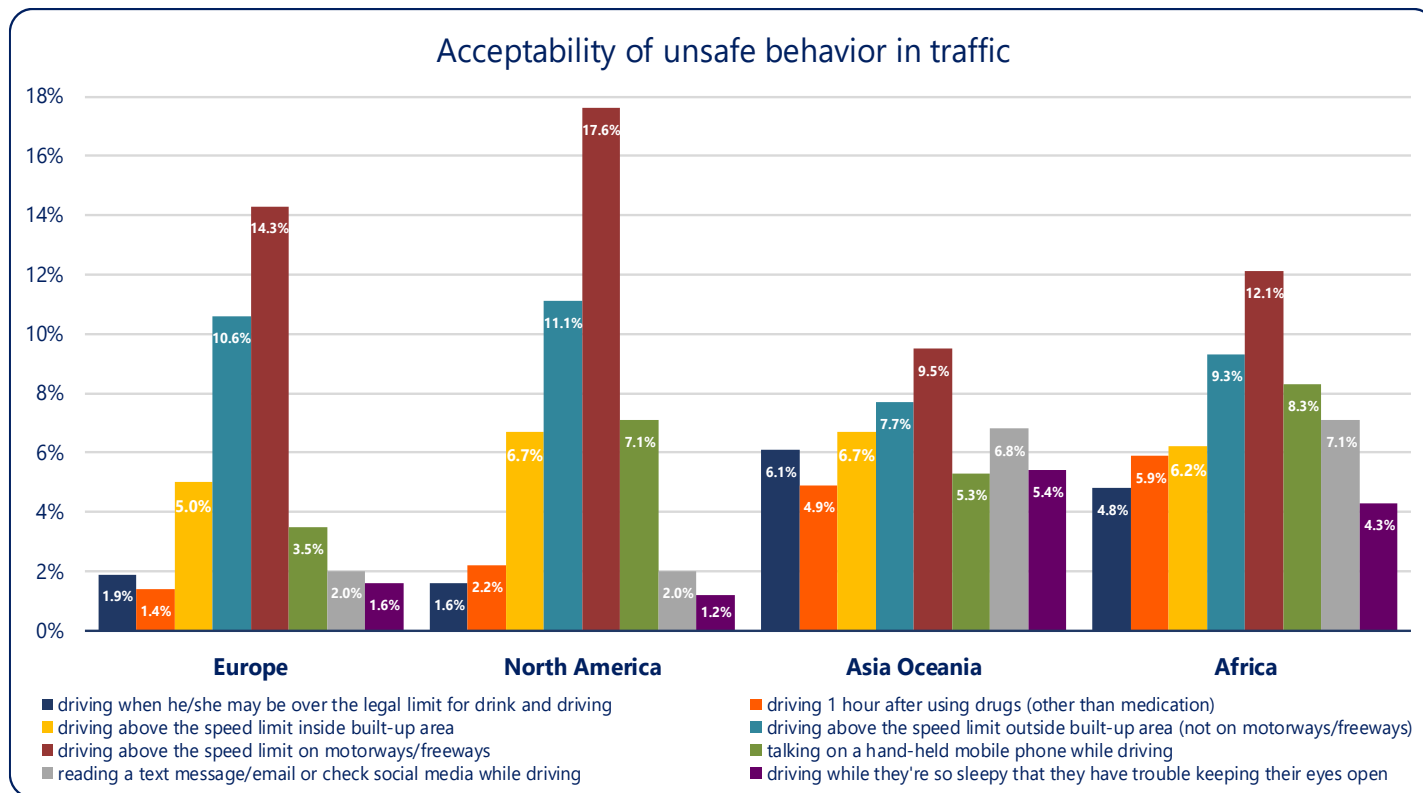
Source: C. Pires, K. Torfs, A. Areal, et al., Car drivers' road safety performance: A benchmark across 32 countries, IATSS Research, <https://doi.org/10.1016/j.iatssr.2020.08.002>



Acceptability of unsafe behavior in traffic

- Personal acceptability of DUI, texting while driving, and fatigued driving was particularly **low in Europe and North America**, while the acceptability of these behaviors was significantly **higher in Asia-Oceania and Africa**.
- Driving above the speed limits on motorways/freeways – the behavior with the highest rates of acceptability in all regions – was considered **more acceptable in North America and Europe** than in Africa and Asia-Oceania.
- In all regions, driving above the speed limit inside built-up area was considered **less acceptable** than outside built-up areas.

Personal acceptability of unsafe behavior in traffic (% of acceptability – scores 4 and 5 on a 5-point scale from 1=unacceptable to 5=acceptable)



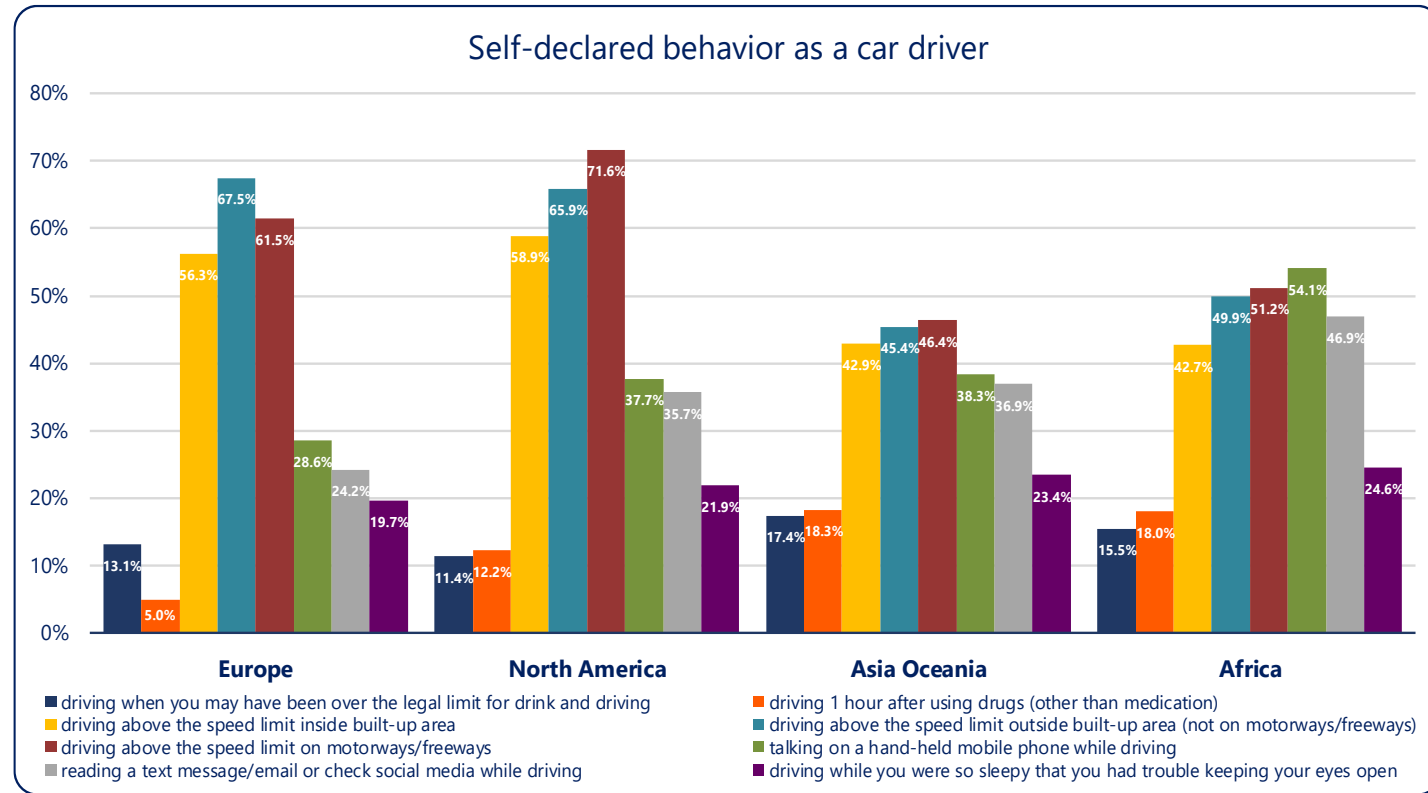
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Self-declared behavior as a car driver

- DUI of alcohol or drugs was the **least frequently** declared behavior in all regions.
- While in Europe a higher percentage of car drivers declared drinking and driving (13%) than driving after using drugs (5%), **the opposite** was observed in the other regions.
- **Speeding and mobile phone use** while driving were the most frequent self-declared behaviors.
- Self-declared speeding rates were **higher in Europe and North America** than in Asia-Oceania and Africa.
- The highest rates of mobile phone use while driving correspond to **Africa** (54% talking and 47% texting).

Self-declared behavior as a car driver (% at least once in the past 30 days – scores 2 to 5 on a 5-point scale from 1=never to 5=[almost] always)



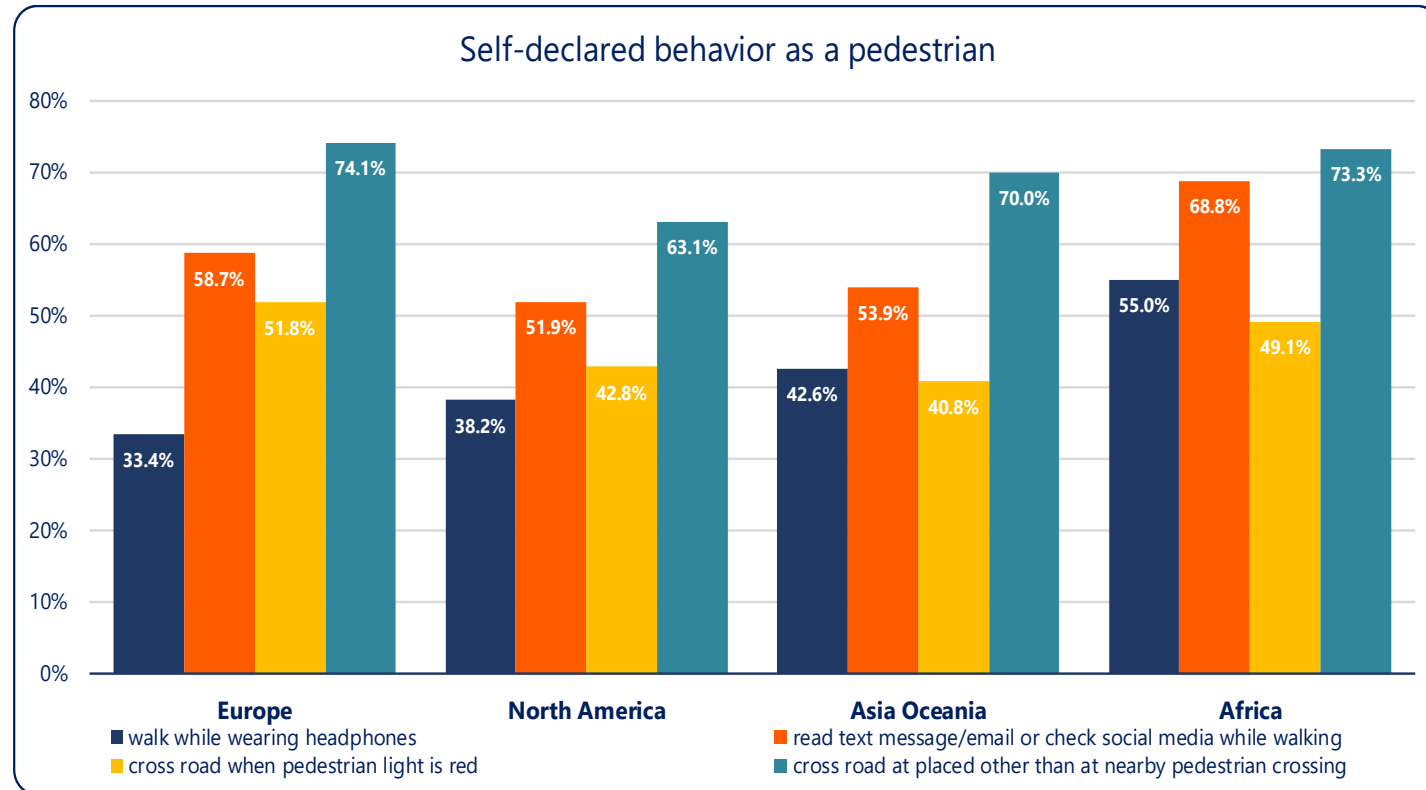
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Self-declared behavior as a pedestrian

- The **most common** pedestrian risky behavior was crossing the road outside the pedestrian crossing (63%-74%), followed by reading a text message on the phone or checking social media while walking on the street (52%-69%).
- Respondents listening to music through headphones was the **least frequent** reported behaviour.
- An interesting finding is that a respondent's **region of residence had very little influence** on the prevalence of risky behaviours.

Self-declared behavior as a pedestrian (% at least once in the past 30 days – scores 2 to 5 on a 5-point scale from 1=never to 5=[almost] always)



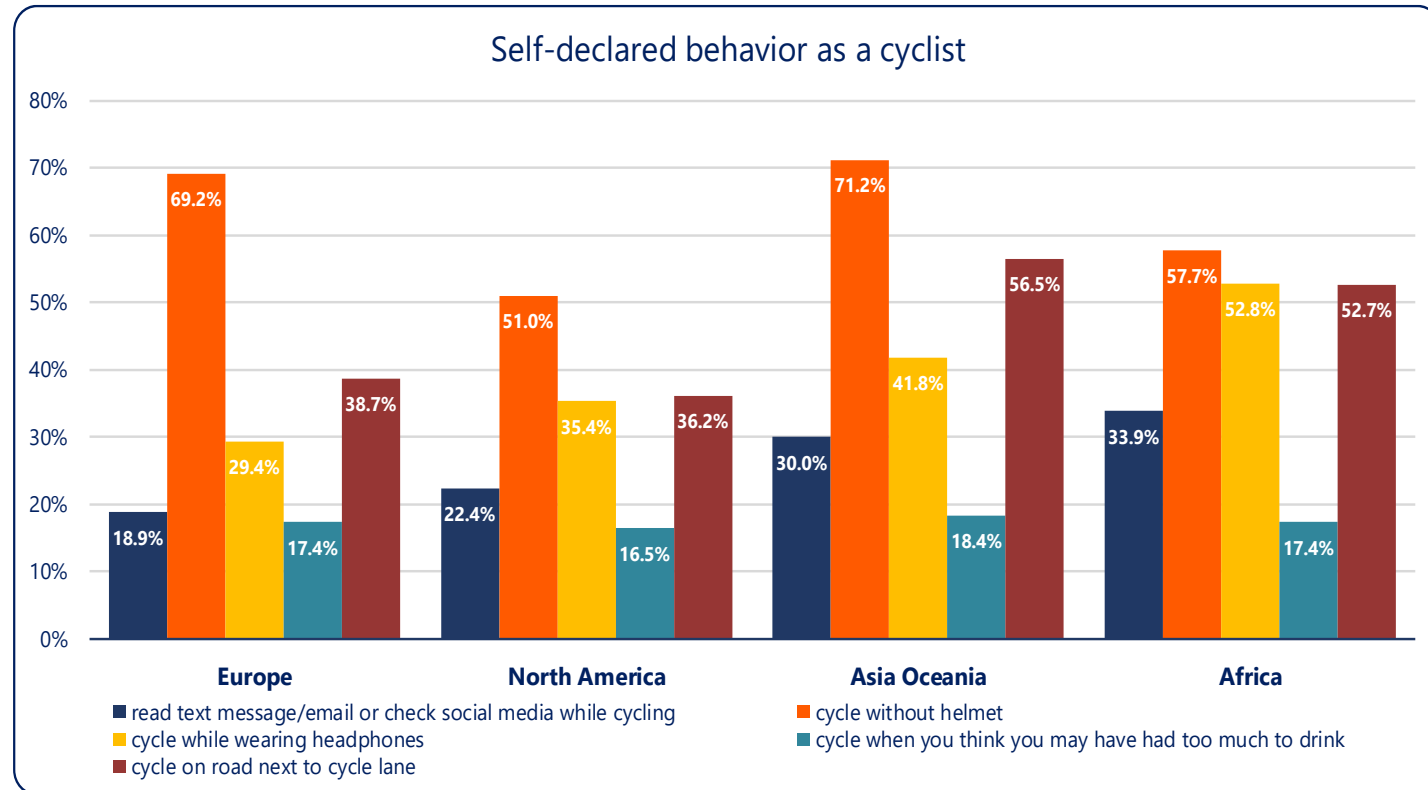
Source: G. Yannis, D. Nikolaou, A. Laiou, et al., Vulnerable road users: Cross-cultural perspectives on performance and attitudes, IATSS Research, <https://doi.org/10.1016/j.iatssr.2020.08.006>



Self-declared behavior as a cyclist

- Cycling without using a helmet was **the most frequently** mentioned unsafe behavior. This rate was significantly higher in Asia-Oceania (71%) and Europe (69%) than in Africa (58%) and North America (51%).
- In all regions, the **least frequently** mentioned unsafe behaviour was cycling under the influence of alcohol with very similar rates (17–18%).
- Cycling while **wearing headphones** ranged from 29% in Europe to 53% in Africa.
- The corresponding lowest and highest percentages for the behavior '**read a text message/email or checked social media**' were again recorded in Europe (19%) and in Africa (34%), respectively.
- Cycling adjacent to the cycling lane was reported the **least frequently** by North American respondents in (36%) and most frequently by cyclists in Asia-Oceania (56%).

Self-declared behavior as a cyclist (% at least once in the past 30 days – scores 2 to 5 on a 5-point scale from 1=never to 5=[almost] always)



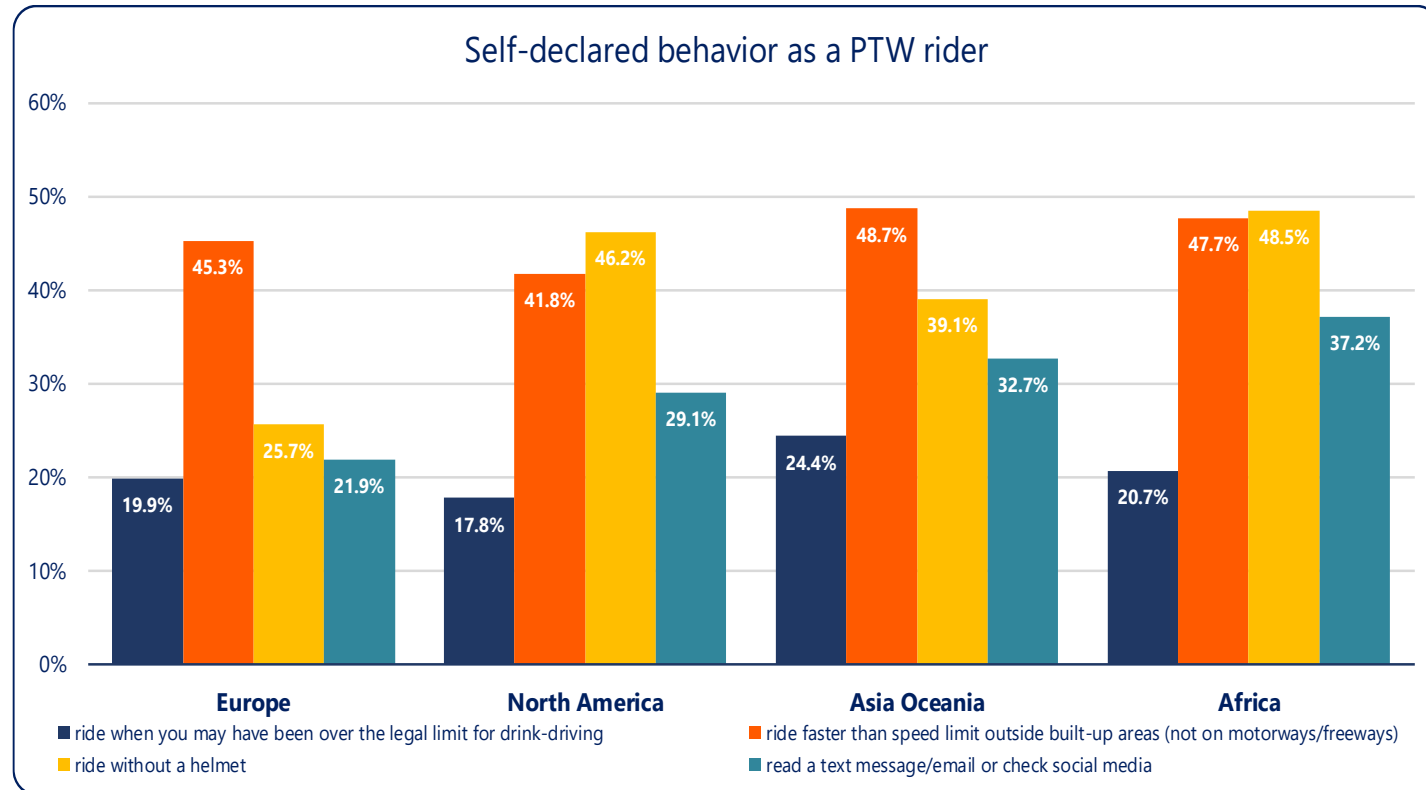
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Self-declared behavior as a PTW rider

- The **most frequent** unsafe behaviors reported by PTW riders are riding faster than the speed limits outside built-up areas (but not on motor ways/freeways) and riding without a helmet.
- Self-declared **riding without helmet** is significantly higher in Africa (49%), North America (46%) and Asia-Oceania (39%) than in Europe (26%).
- Self-declared drink driving and speeding rates **do not differ** much between regions.
- The results of PTW riders for the self-declared behavior of **reading a text message/email or checking social media** while riding vary from 22% in Europe to 37% in Africa.

Self-declared behavior as a PTW rider (% at least once in the past 30 days – scores 2 to 5 on a 5-point scale from 1=never to 5=[almost] always)



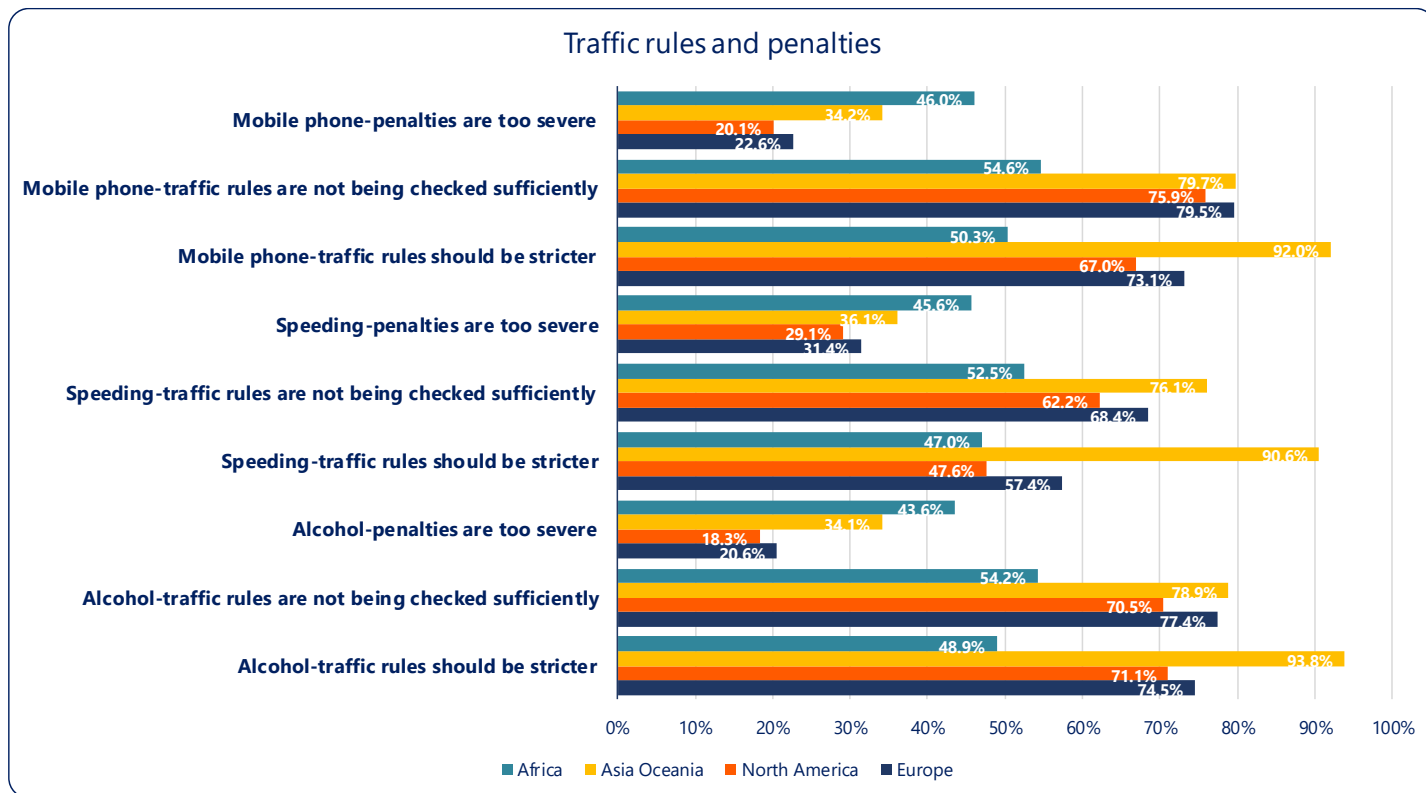
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Opinions on traffic rules and penalties

- Most of European, North American and Asian-Oceanian respondents agree that traffic rules concerning **DUI of alcohol** should be stricter and are not being checked sufficiently. On the contrary, a minority agrees that penalties are too severe (Europe: 21%, North America: 18%, Asia-Oceania: 34%).
- Figures on the **use of mobile phone** while driving are quite similar to DUI-traffic rules.
- **In Africa**, the percentage of respondents who agree that traffic rules should be stricter and are not being checked sufficiently is significantly lower than in other regions and the percentage of those who agree that traffic penalties are too severe is significantly higher.

Opinions on traffic rules and penalties (% of "agree" – dichotomous variable: disagree/agree)



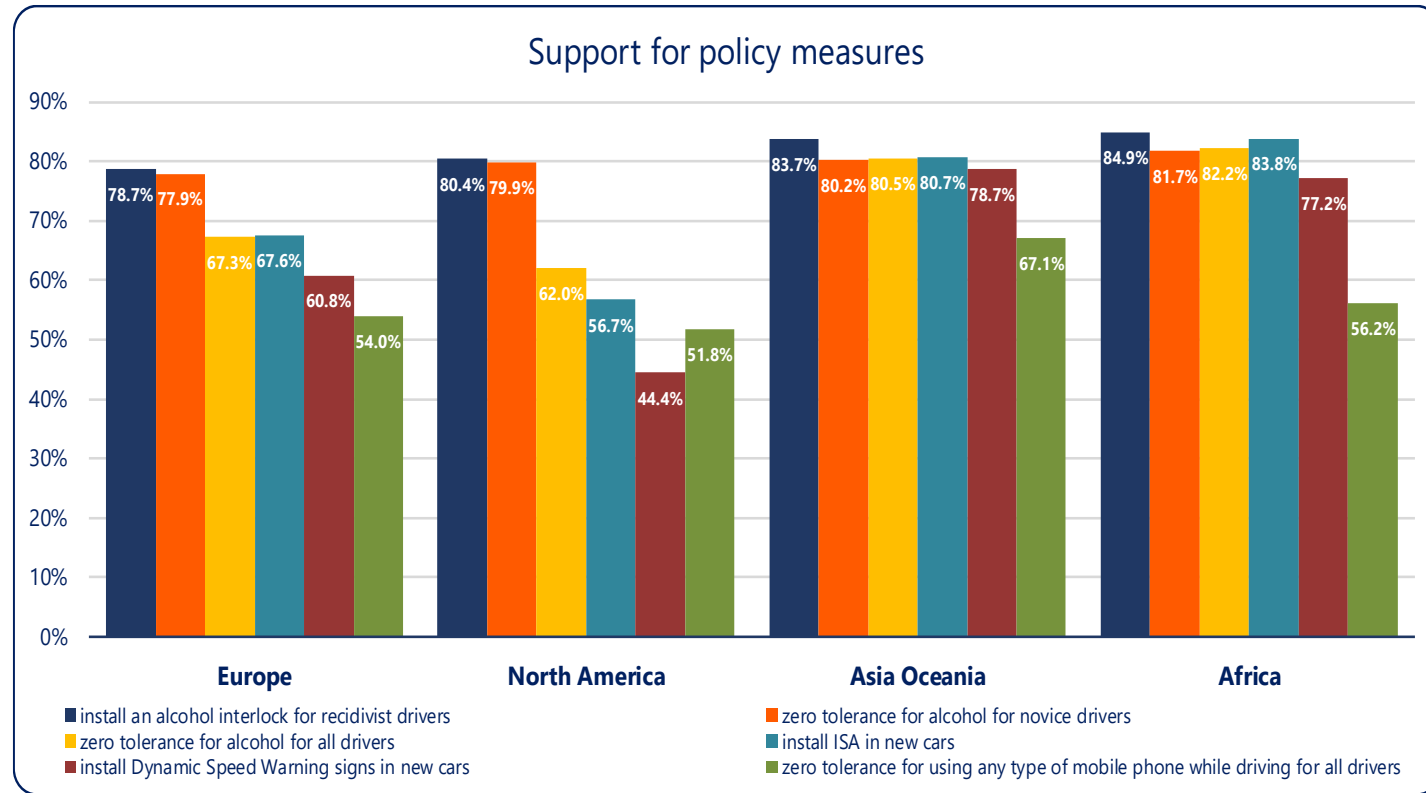
Source: C. Pires, K. Torfs, A. Areal, et al., Car drivers' road safety performance: A benchmark across 32 countries, IATSS Research, <https://doi.org/10.1016/j.iatssr.2020.08.002>



Support for policy measures

- In all regions, the installation of an alcohol interlock for recidivist drivers and zero tolerance for alcohol for novice drivers were supported by **more than three quarters** of the respondents.
- The support rate for **zero tolerance for all drivers** was higher in Asia-Oceania (81%) and in Africa (82%) than Europe (67%) and North America (62%).
- Measures for **tackling speeding** (ISA and Dynamic Warning Signs) received more support in Asia-Oceania and Africa (from 79% to 84%) than in Europe and North America (from 44% to 68%).
- The support for zero tolerance for using any type of **mobile phone while driving** was the strongest in Asia-Oceania (67%) and the lowest in Europe (54%) and in North America (52%).

Support for policy measures (% of support – scores 4 and 5 on a 5-point scale from 1=oppose to 5=support)



Source: C. Pires, K. Torfs, A. Areal, et al., Car drivers' road safety performance: A benchmark across 32 countries, IATSS Research, <https://doi.org/10.1016/j.iatssr.2020.08.002>



Concluding Remarks



Concluding Remarks (1/3)

- Despite the high perception of risk and low acceptability of unsafe behaviors, there is still **a high percentage** of car drivers who engage in such behaviors in all regions.
- Overall the results on self-declared behavior and personal acceptability are consistent when compared by region. However, there are **some inconsistencies** when comparing personal acceptability and self-declared behaviors.
- Self-declared behavior reported by VRUs should be taken into account seriously in order to identify the most frequent risky behaviors as the percentage of **VRUs' fatalities** in road accidents worldwide is especially high (54%).



Concluding Remarks (2/3)

- Asian-Oceanian and African road users have **lower risk perception** for certain unsafe behaviors as a frequent crash cause compared to Europeans and North Americans.
- European car drivers who admitted to **DUI of drugs** at least once in the past 30 days were clearly fewer (5%) than drivers in other regions (12-18%).
- Among all road users, **Asians-Oceanians** are those who believe most (>90%) that traffic rules related to mobile-phone use, speeding and alcohol should be stricter.



Concluding Remarks (3/3)

- There are several differences in the attitudes and opinions of road users from different regions, which also highlight the respective **variation in their road safety culture**.
- It is crucial to **understand clearly the meaning** of traffic safety culture and the importance of its development so that different countries can cooperate better in order to reduce road crashes and related casualties worldwide.
- The systematic implementation of **integrated road safety policies** and programs by local, regional, national and international Authorities is necessary for the development of traffic safety culture.





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