Transport safety culture in private and professional road transport in Norway and Greece (the SafeCulture project)

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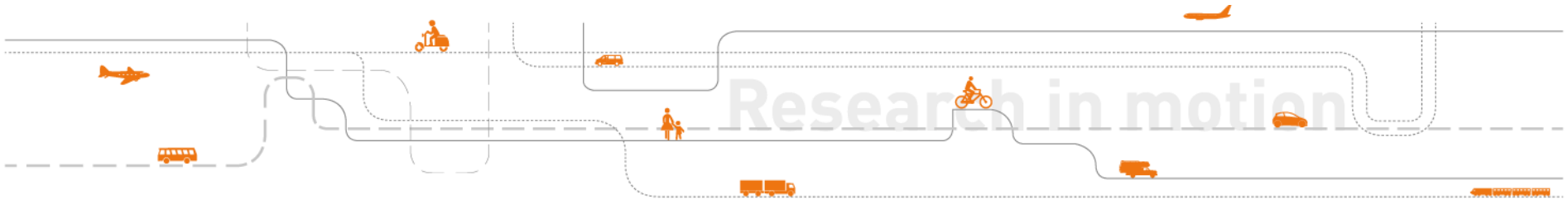

Safe Culture project information:

- Funded by the Norwegian Research Council's Transport 2025 programme. (2016-2018)
- Cooperation: TØI, NTUA, Global Link, NTNU, SINTEF.
- TØI: Nævestad, Phillips, Bjørnskau, Storesund Hesjevoll.
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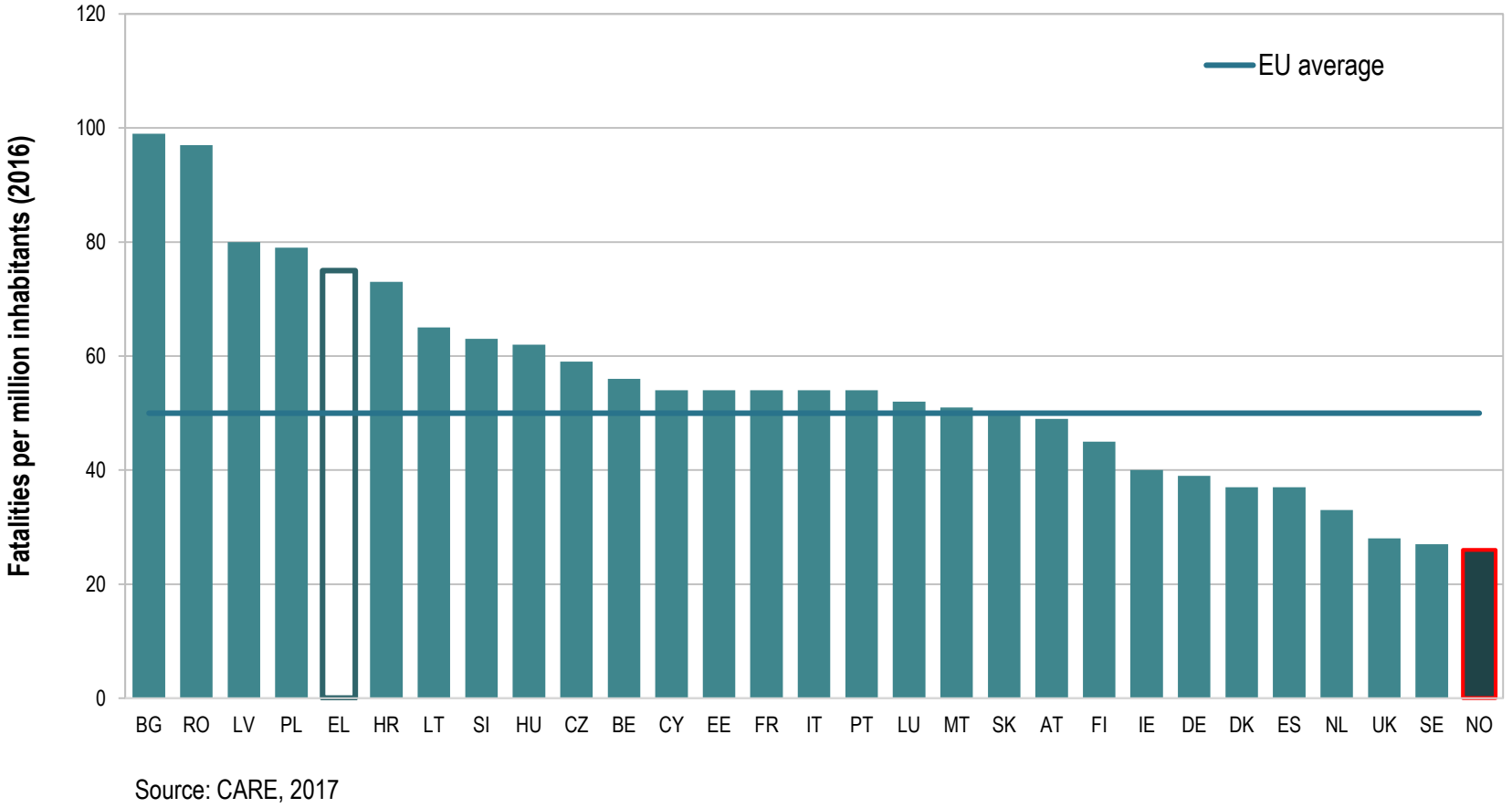
- NTNU: Kristine Størkersen
- Sintef: Stian Antonsen

Fatalities in accidents involving HGVs and buses/coaches in EU



Source: CARE, 2017

Definition of transport safety culture:

- Shared norms prescribing certain transport safety behaviours, shared expectations regarding the behaviours of others, shared values signifying what's important (e.g. safety, mobility, respect, politeness).

- "Subtle social pressure": descriptive norms, signifying what is normal and expected of other road users in your own country (national TSC).

Aims and methods:

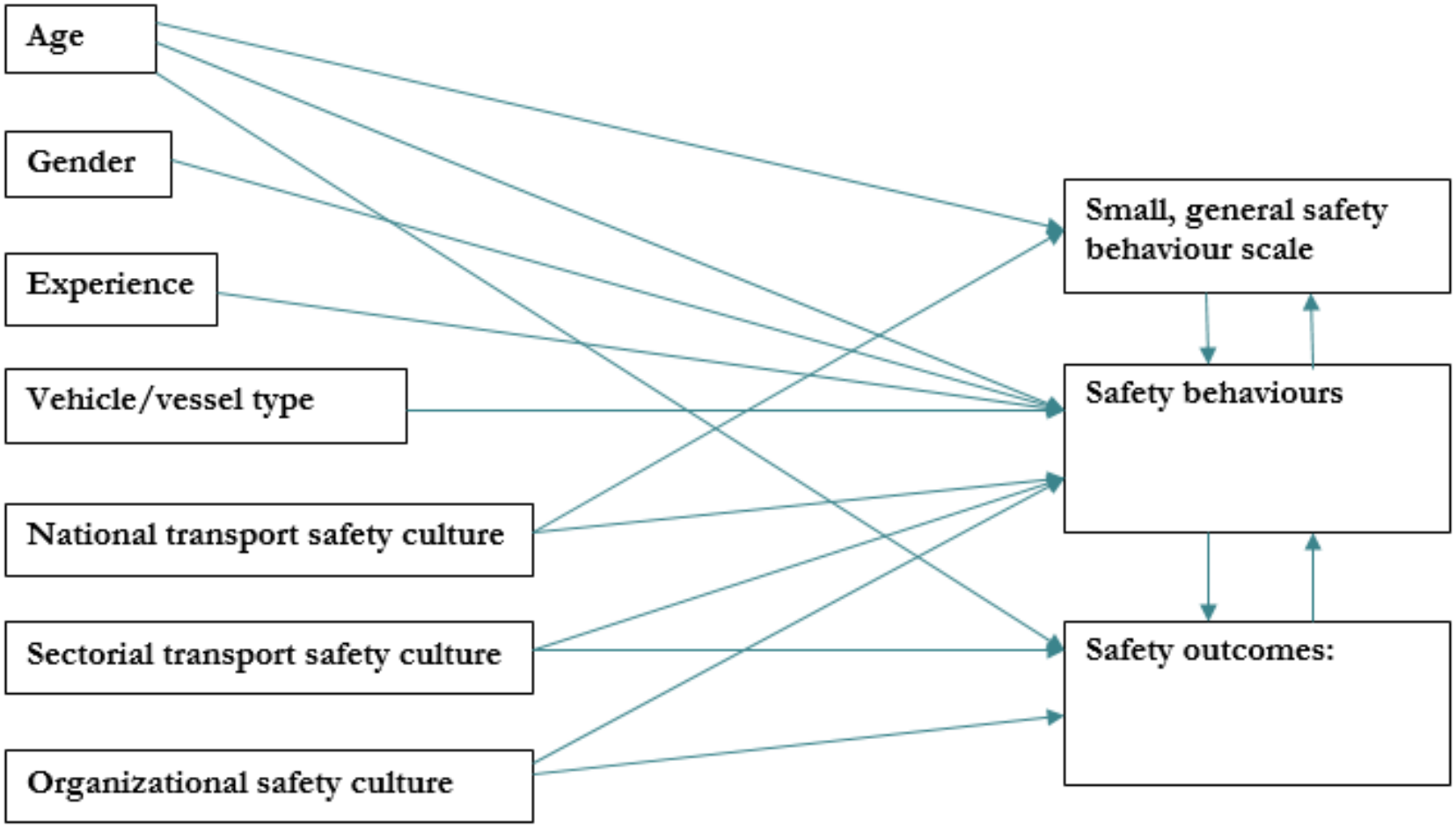
- **Aim:** to examine the influence of national, sectorial and organizational safety culture on transport safety behaviour among Norwegian and Greek professional and private drivers.

- **Methods:**
- Personal interviews with professional drivers (20 in Norway, 20 in Greece)
- Surveys among professional drivers (bus and HGV drivers) from Norway and Greece (N=436), and among private drivers.

Main themes in the surveys:

- Demographic variables and characteristics.
- Working conditions with safety implications.
- Organizational safety culture.
- Safety behaviours.
- National transport safety culture.
- Sector transport safety culture.
- Peer safety culture.
- Safety outcomes.

Key variables and hypothesized relationships



Behaviours: bus (and HGV) drivers: Two factors based on DBQ items which were significantly different and predicted accidents

Item	Aggressive violations	Over speeding
Sound your horn to indicate your annoyance to another road user	0,851*	
Become angered by a certain type of driver and indicate your hostility by whatever means you can	0,827**	
Pull out of a junction so far that the driver with right of way has to stop and let you out	0,731**	
Disregard the speed limit on a residential road		0,860**
Disregard the speed limit on a motor way road		0,886**

Main results I- professional drivers:

- Professional drivers in Greece report more aggressive violations in traffic than Norwegian professional drivers.
- Aggressive violations are predicted by national transport safety culture (descriptive norms and individual freedom).
- Respondents' aggressive violations in traffic predicted their accident involvement.
- Accident involvement for bus drivers was also predicted by experienced time pressure, fixed payment and type of bus transport.

Main results II- professional drivers:

- Organizational safety culture contributes negatively to aggressive transport safety behaviours.

- This means that a positive organizational safety culture may reduce (the negative impact of national transport safety culture on) aggressive violations in traffic.

Discussion:

The effect of national culture, (i.e. violations), may be attributed to the false consensus effect, (i.e. people think that other people do as they do, to justify their own behav.).

- However: National culture violations index for Norwegian drivers who drive dangerous goods and those who do not are almost identical (15.4 and 15.5).

- ….But the behaviours of these two groups are different….

- In the bus study, we also found that a «freedom to take risk» factor contributed significantly.

Paternalism and individual freedom:

Items	Paternalism	Individual freedom
The fact that accidents still happen in traffic, shows that the authorities should control road users' behaviour to a greater extent than they do today	0,831	
The authorities should make it more difficult for people to engage in risky behaviour in traffic (e.g. by lowering speed limits, increasing police enforcement)	0,827	
It is morally and ethically unacceptable that people are killed or severely injured in traffic accidents	0,726	
Road users should be able to choose risky activities in traffic, as long as they do not expose other to risk		0,784
A skilled person can take more risks than others		0,737
Road users know best themselves how they should behave in traffic		0,683

What about the non-professional drivers (Preliminary findings!)?

- *Our behaviour results for prof. drivers are in line with previous research on private drivers (Wallen et al 2011).*

- *Our studies of professional drivers indicate that the following factors may reduce the negative impact of national safety culture: a) organizational safety culture and b) sector focus on safety*

- Thus, given these two factors and the training of professional drivers, we may hypothesize that the professional drivers in Greece will be less influenced by the national transport culture (of aggressive violations) than private drivers.

Scores of non-professional drivers vs professional drivers (Preliminary findings!):

- What are their scores on the aggressive violations-scale (3 questions)?
  - *Greece: Bus: 6 private 5.7 points.*
  - *Norway: Bus 4.8, private 4.3.*

- What about their perceptions of other drivers behaviour in their own country (7 questions)?
  - *Greece: Bus: 19.1 private 18.8 points.*
  - *Norway: Bus 13.7, private 10.8.*

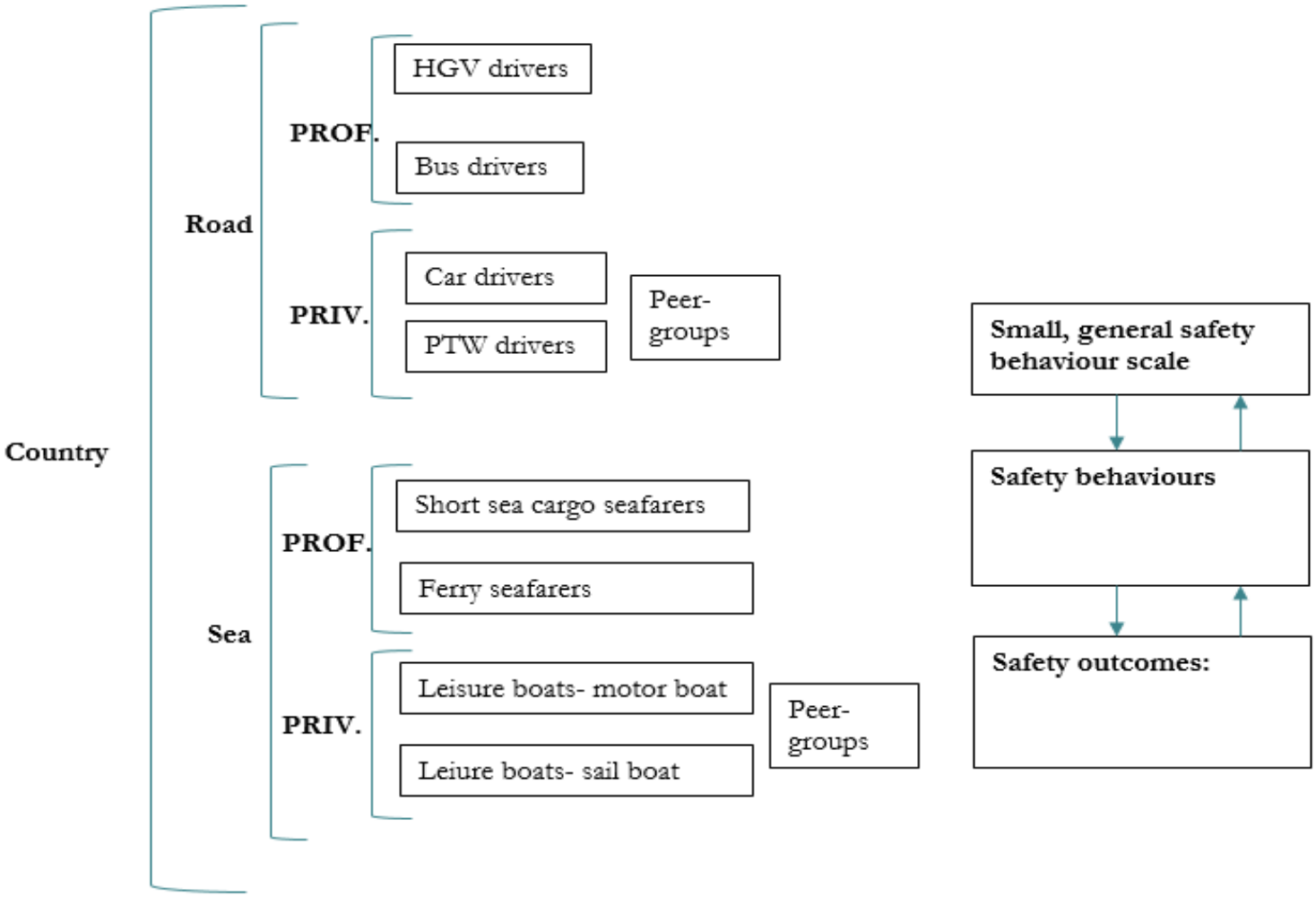
Traffic safety culture:

- We see that both private and professional drivers in the two countries have relatively similar perceptions of the behaviours of other road users in their country.
- These shared expectations and norms (“the culture”) influence their behaviours.
- How does these shared expectations (“the culture”) come about? Interaction, training, internalization etc.
- Mechanisms? …subtle social pressures: descriptive norms; what is normal and expected etc.).

Traffic safety culture:

- And to what extent can these differences explain national differences in accident risk?
- Our results may indicate a relationship between national accident risk and national norms and expectations?
- What are the mechanisms behind this relationship?
- Culture-behaviour-accidents…
- And how can we (use these mechanisms to) influence traffic safety culture?

Groups/samples in our project



What about professional seafarers? Is national culture important in an international industry?

- Safety behaviour: A) Violations/risk acceptance (4 items), B) Working under the influence (1 item) and C) Non-intervention / non-reporting (2 items).
- A) Violations/risk acceptance is especially influenced by organizational safety culture, sector culture and e.g. work pressure (not nat. culture).
- B) Working under the influence is especially influenced by national culture (descriptive norms and individual freedom).
- C) Non-intervention / non-reporting is especially influenced by organizational safety culture.
- Safety culture at different analytical levels influences different types of unsafe behaviours.
- Thus, it is important to study safety culture at different analytical levels, in order to fully understand the influence of culture on safety in transport.

What about private boat users?

- Compared to the number of people who go boating in different countries, the risk of accidental death is quite high compared to that of other private transport modes.
- Despite of this, recreational boating is to a small extent being regulated and the level of enforcement is low.
- Unsafe behaviours related to work pressure and risk taking are predict accidents among professional seafarers (i.e. risk acceptance and violations),
- Unsafe behaviours related to the leisure/holiday situation predicted leisure boat users' accident risk (i.e. alcohol use while driving a boat).