



The Rise, Fall, and Rise of Driver Education

Willem Vlakveld

The Road Untravelled: New Pathways Towards Safer Novice Drivers, Friday 22 July 2016

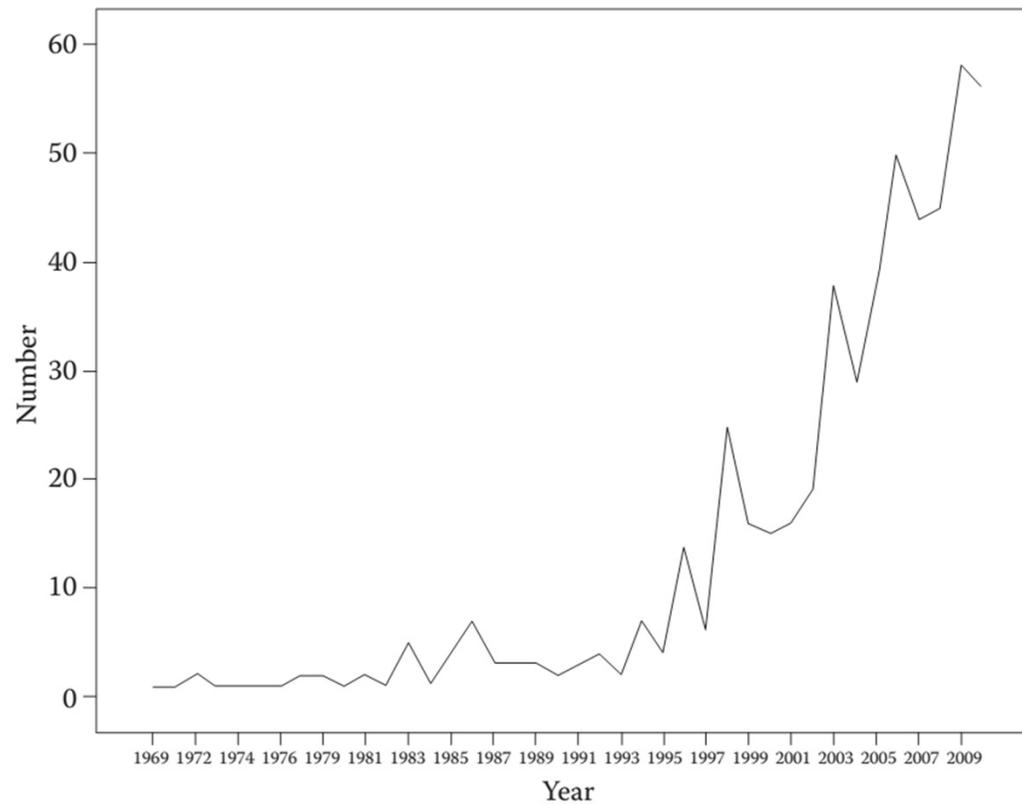
Content

- Worldwide trends in young novice driver research over time
- Overview of causes
- Overview of countermeasures
- Countermeasures in Europe (and the Netherlands)
- The role of driver education
- Conclusion

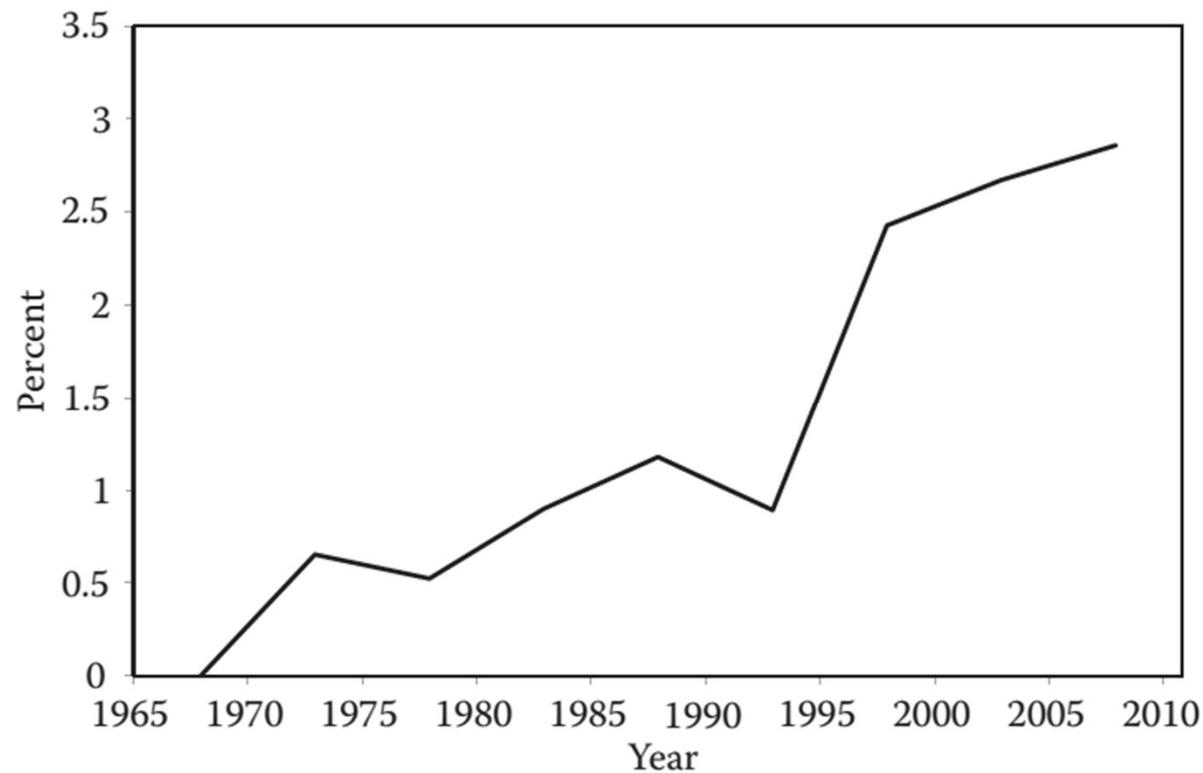
Trends over time

- Use was made of a database created by Hagenzieker et al. (2014) containing titles and abstracts of studies on road safety from 1920 - 2010
- Scopus and ISI Web of Science database of Thomson Reuters: 26,536 articles
- Search terms: teen driv*,” teenage driv*, “young driv*, learner driv*, and novice driver*
- 534 articles on young novice drivers

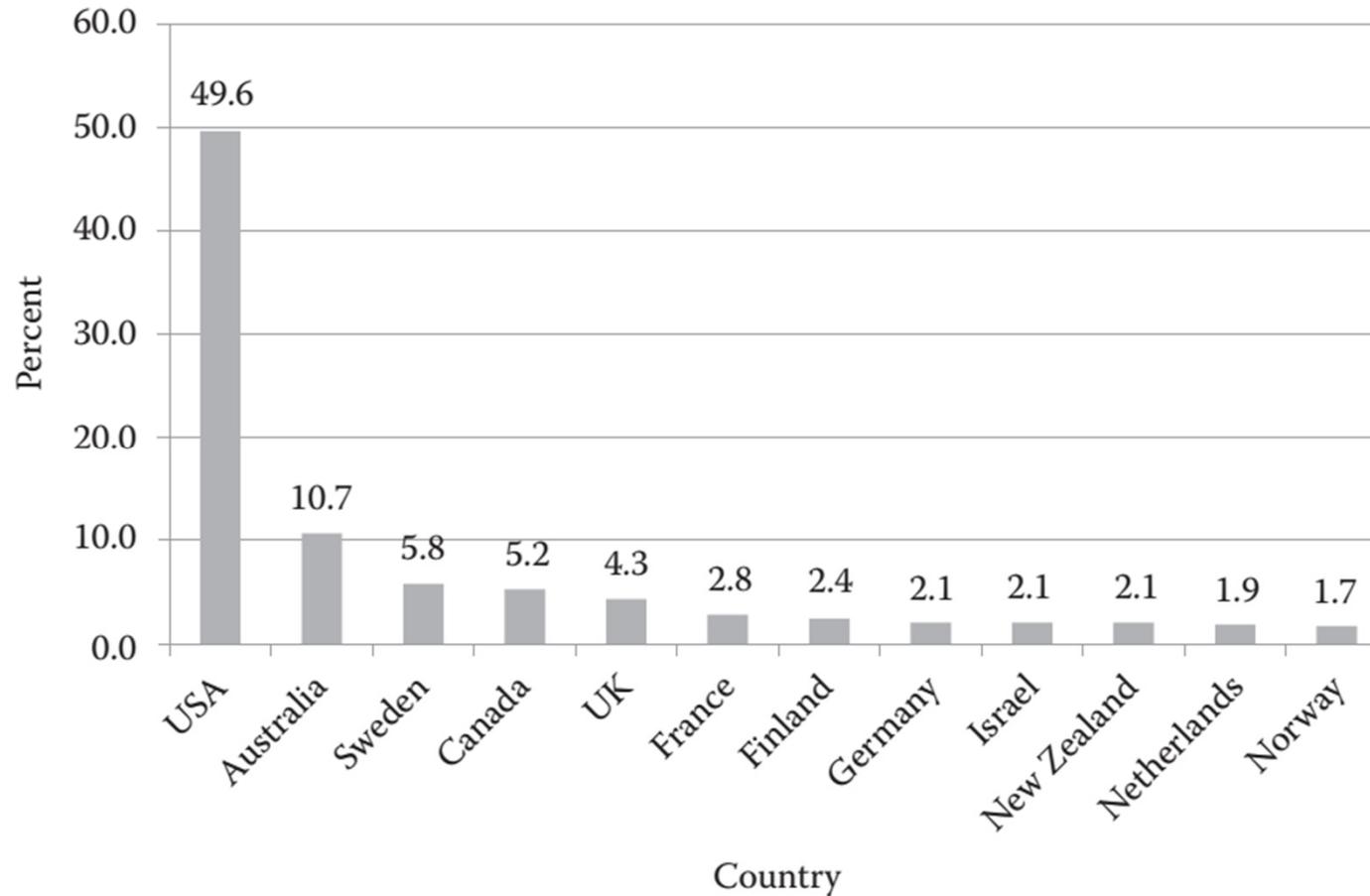
Annual number of publications



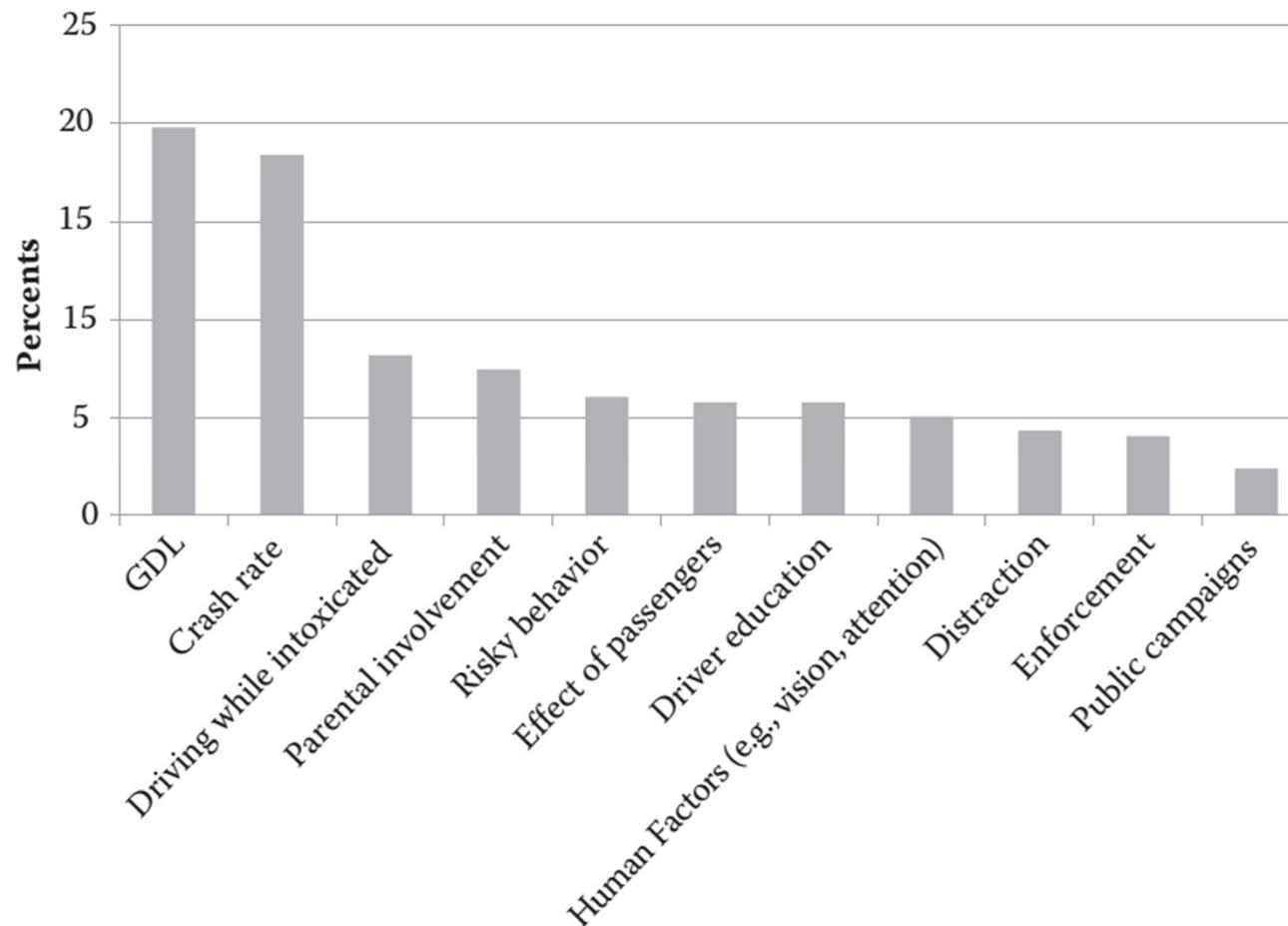
The percentage young novice driver studies in the road safety studies



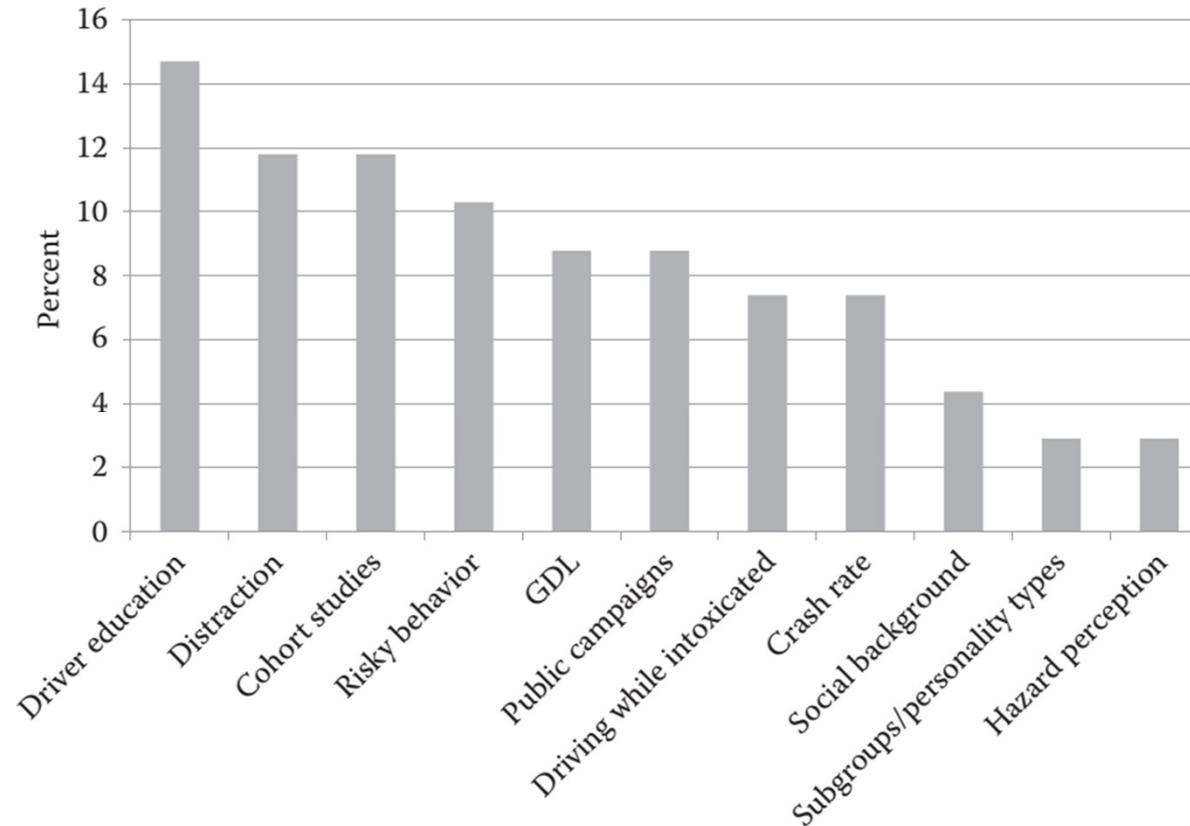
Country of origin



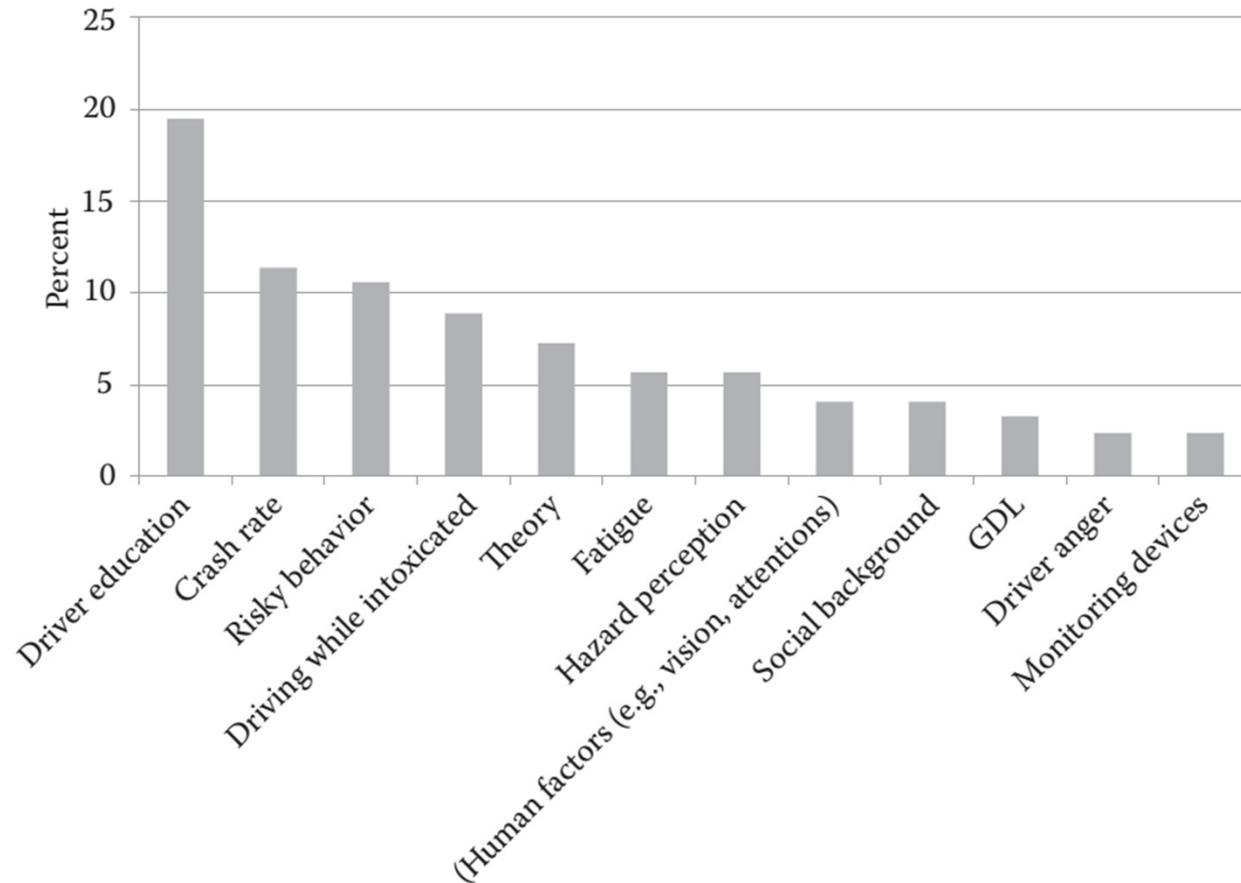
Subjects North America



Subject Australia and New Zealand



Subjects Europe and Israel



Overview of Causes

Biological aspects (Nature)	Age brain development	Gender	Personality	Physical and mental constitution
↕				
Norms, values/ competences (Nurture)	Youth cultures lifestyle	Peer group influences	Education	Socioeconomic and cultural background
↕				
Capabilities/acute impairments	Alcohol/drugs	Fatigue	Distraction/ inattention	Emotions
↕				
Hazard perception in traffic	Scanning	Detecting	Recognizing	Predicting
↕				
Risk awareness and task execution	Self assessment	Risk assessment Risk acceptance	Decision making/ action selection	Task execution
↕				
Task demands/ exposure	Speed/ vehicle	Traffic density	Road and road environment	(Weather) conditions

Types of countermeasures

- Measures that limit exposure to risky situations (e.g. higher age limits)
- Measures that are intended to improve the skills, attitudes, and the motivation to drive safely (e.g. driver education)
- A mixture of the two (e.g. GDL combined with driver education)

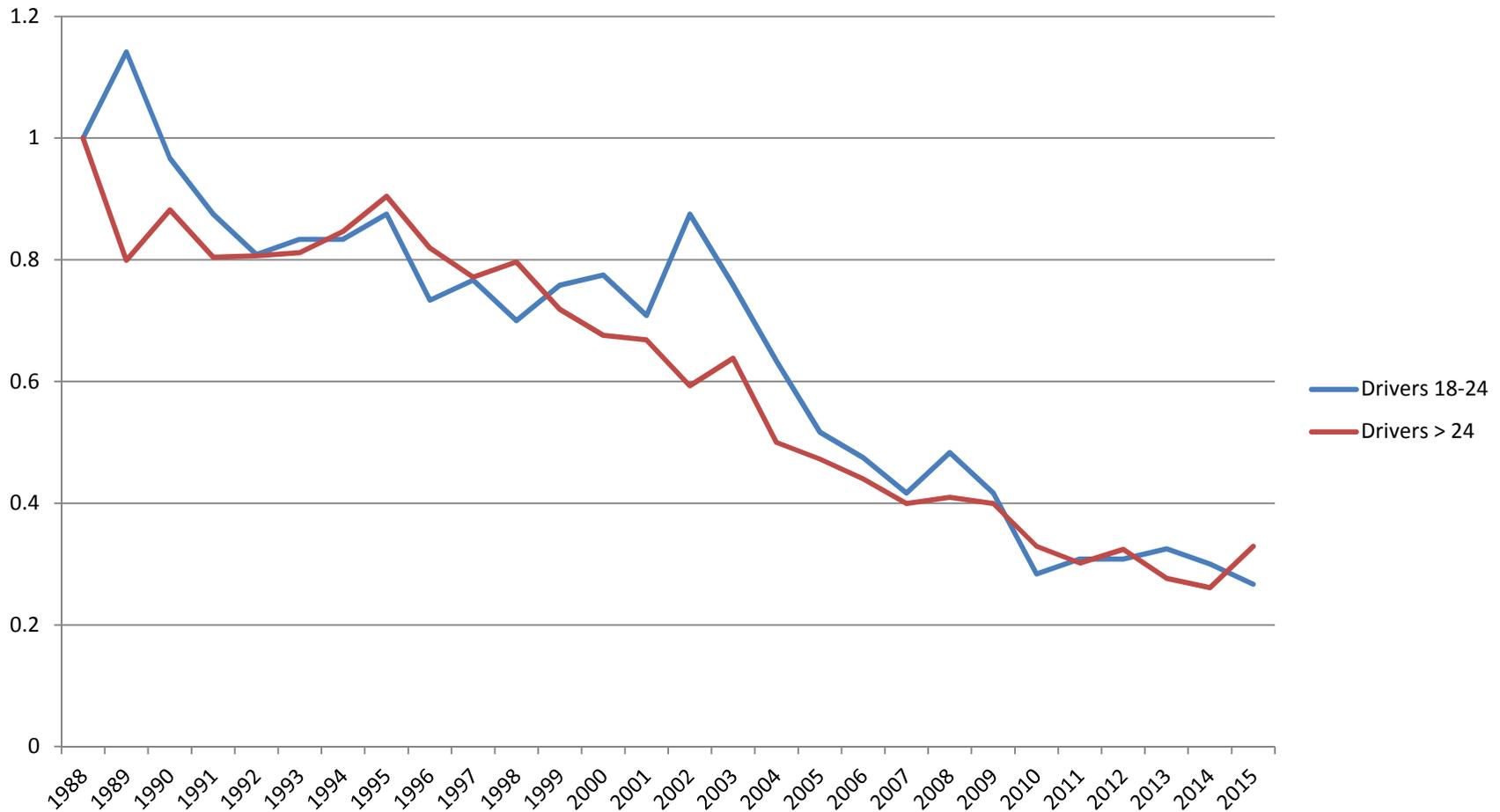
Trends in Europe

- Introduction of supervised driving (Germany, the Netherlands)
- Train drivers the insight to avoid emergency situations and not the skills to overcome emergency situations (Scandinavia)
- IVDR's in vehicles of young novice drivers (Mainly Israel)
- Mandatory training programs around six months to 12 months after being fully licenced (second phase driver education) (Finland, Austria, Luxembourg)
- No intermediate phase of GDL system with restrictions (e.g. not driving with peers, no driving when it is dark)
- Hazard Perception testing in the UK but not yet in other European countries

Countermeasures in the Netherlands

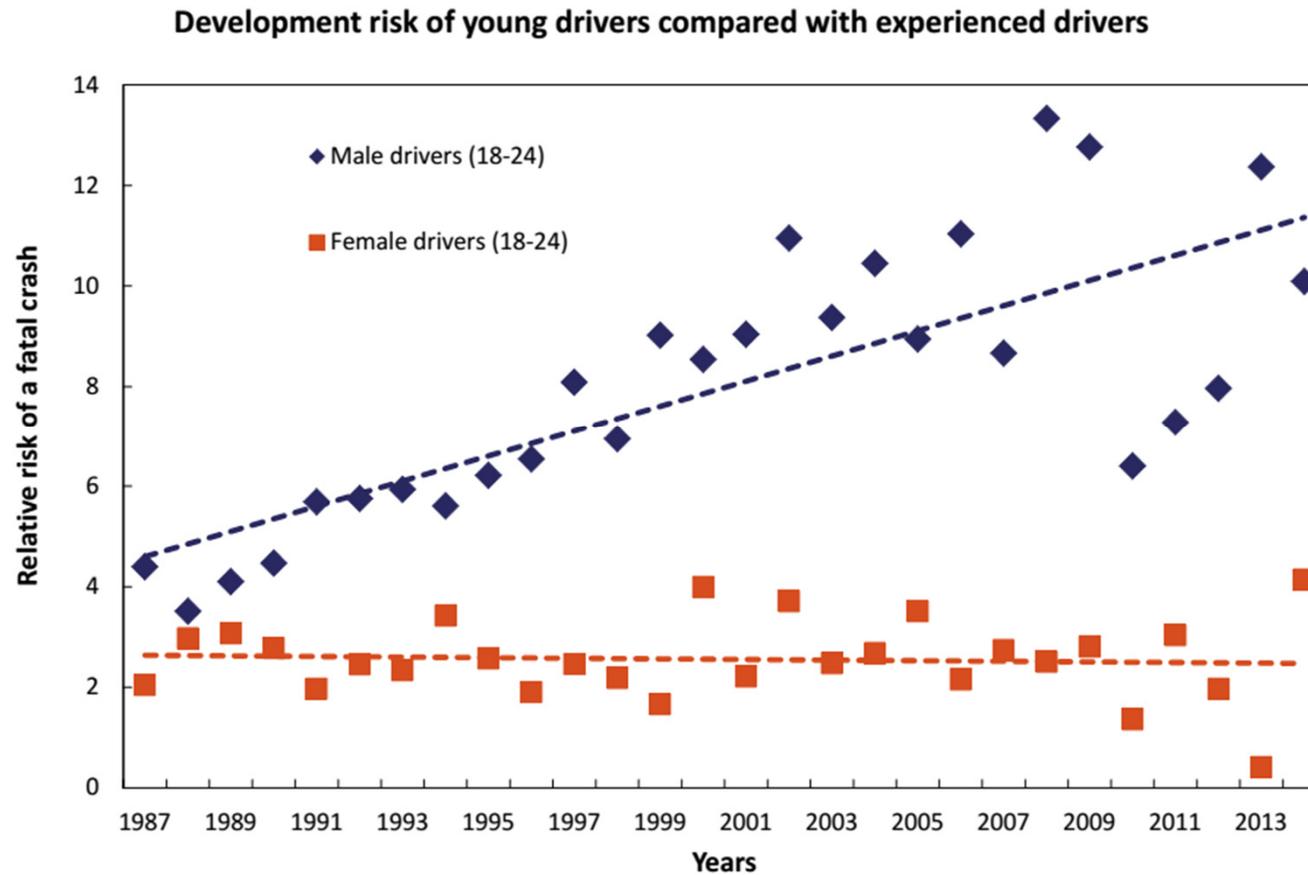
- 1992: Free public transport for all students
- 2002: Provisional licence (first five years after licencing demerit point system, zero alcohol)
- 2006: Independent driving in practical on-road driving test
- 2009: Hazard perception test in the theory test
- 2011: Supervised driving (after having past driving test and not yet 18 years of age)

Problem remains the same



Killed car drivers in the Netherlands

Female and male young drivers



Driver Education

- Driver education or Driver Training

General driver education

- Pre-driver Education
- Formal basic driver Education
- Informal driver Education
- Post-licence Education

Special training programs

- Hazard anticipation training
- Rehabilitation courses for young offenders
- ‘Insight’ training programs and resilience training
- Interactive PC-based training programs (simulator training)

North America

- High school driver training
- The Dekalb County study (1977-1983)
- GDL
- Parental involvement
- Integration of higher order skill training (hazard anticipation, risk awareness, self-awareness) driver education in GDL-systems?

Australia New Zealand

- GDL
- Hazard perception testing
- Interactive pc-based training programs (Drive Smart, eDrive)
- Higher order skill training, resilience training in GDL systems?

Europe

- Late licencing age, focus on testing and formal driver education
- Shift in driver education towards higher order skill training (GDE-matrix 1999)
- Mandatory second phase training
- Introduction elements of GDL-systems in licencing systems

Goals for Driver Education 1999

	GDE-matrix		
	Knowledge & Skills	Risk-increasing factors	Self-evaluation
1. Goals for life and skills for living	Lifestyle, group norms, motives, personal values	Risk-acceptance, sensation-seeking, group norms, peer pressure	Impulse control, awareness of safety negative motives, awareness of own risky habits
1. Goals and context of driving (trip related)	Modal choice, route choice, awareness of peer pressure in the car	Alcohol, fatigue, distraction, extra motives (e.g. impress peer passengers)	Self-awareness of own limitations and awareness of risks of alcohol, fatigue, peer pressure, et cetera.
1. Mastery of traffic situations	Applying rules of the road, hazard anticipation	Disobeying rules, close following, information overload, no attention for vulnerable road users	Calibration skills (not overestimating one's own competences and not underestimating the risks)
1. Vehicle maneuvering	Car control, knowledge of protection systems	Not fully automated vehicle handling skills, No seatbelts, poor vehicle maintenance	Calibration of car control skills

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Trends in general

In North America emphasis on the implementation of GDL systems and parental involvement but not on driver education. However, some interest in driver education is emerging.

In Europe shift towards higher order skill training and interest in GDL-systems is developing.

In Australia and New Zealand, it has always been both: driver education and GDL.

Is driver education an option?

- Better to adapt the traffic system to the young driver than to adapt the young driver to the traffic system.
- What is effective for all drivers (e.g. safer roads and safer vehicles) is also effective for young drivers

However,

- You cannot always adapt the traffic system to the young driver and therefore you will always need some kind of driver education
- But when you do it make sure:
 - you know the behaviours that cause crash involvement
 - you know the (psychological) determinants of those behaviours
 - You know the didactical methods that are effective in changing these behaviours permanently
 - You always evaluate the effectiveness of your driver education program