



Safe driving for life:
changing attitude and behaviour
through education, training and testing.





Austria's Driving Licence on Probation renewed

CIECA 2018 - Belfast



State of the Art Probationary Licence in Austria

- Introduction January 1992
- Upon first acquisition
- All categories (except AM and agricultural)
- 1 Restriction: 0.1 mg/ml Blood Alcohol Limit
- Evidence: by date of issuing



Consequences

- List of severe offences
- Extension of probationary period by 1 year
- Driver rehabilitation course
- Respective fine
- Medical and psychological test after 3rd extension



Offences

- Alcohol > 0.1 BAC
- Speeding: >20 km/h urban, 40 km/h rural
- Red light running
- Any kind of illegal overtaking



Offences ctd.

- Wrong way driving (anywhere)
- Hit-and-run
- Injury crash
- Phone use (NEW 2017)



Results of simple evaluation

- 5 years after introduction:
- Net reduction of injury crashes: 18.7%
- Net reduction of alcohol-related crashes: 16.8%
- Controlled for
 - Other age groups development
 - Change of population in age group



Other related measures in place to be considered

- L17
 - Lay instruction model, 25% of drivers, since 1999
- Graduated licencing for powered two-wheelers
 - 1991 “Austrian Model”, later European models
 - Net reduction of both injuries and fatalities:
 - 18-19 years: - 70%, 20-24 years: - 50%
- “Risk competence training” since 2013
- Multiphase driver training since 2003
 - Effect: -1/3 injury crashes
- Penalty Point system (since 2005)

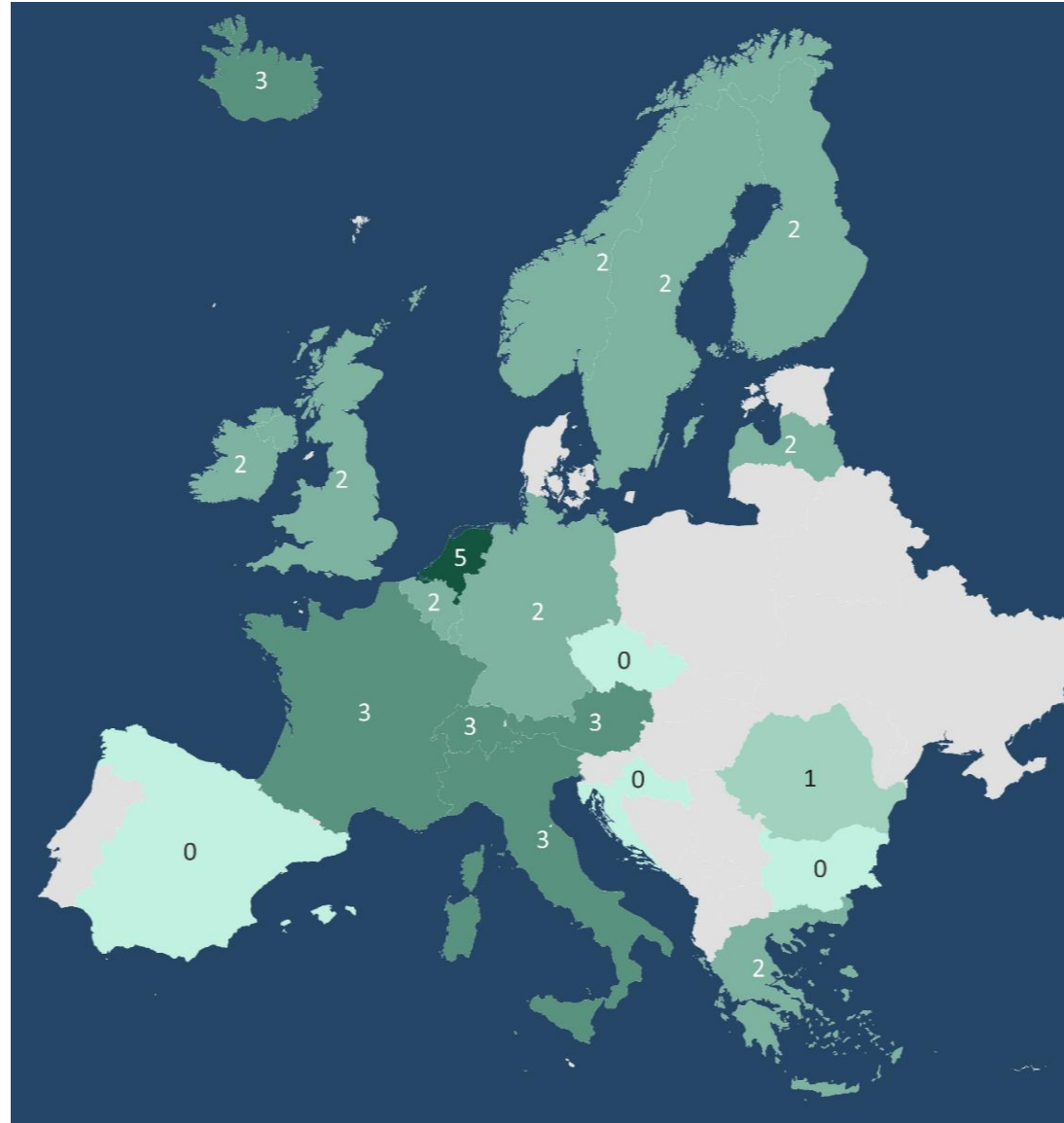


Probationary Licence in Europe

Duration of restrictions
during the probationary
period in years

(Responses from 21 countries, see map)

Source: Expert survey by KFV, 2016



Preventive measures particularly for young drivers

- Different alcohol limits: 10 countries
- Stricter punishment (in penalty point systems): 15 countries
- Speed limits: 3 countries
- Beginner-Badge: 5 countries
- Night time driving curfew
- Peer passenger restrictions
- Cell phone use restrictions



Study on young drivers' attitudes and driving errors

- 89 beginners vs. 29 experience drivers
 - Beginners aged 18 - 43, experience 30 - 67
- Lower mileage with beginner
- Lower frequency of driving
 - Highway, city, other roads consistently
- Hardly any differences in attitudes

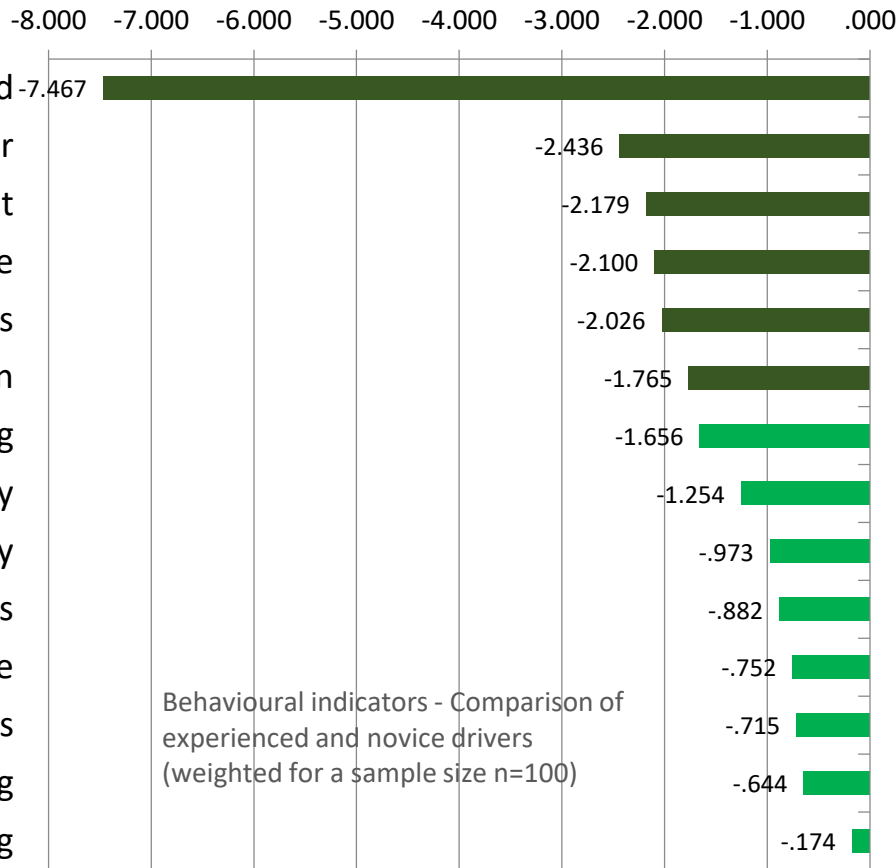


Differences in the frequency of driving errors: The Experienced

Source:
 Survey by KfV, 2015
 Steinbauer, J., Schneider, F.
 (2015)
 "Fahrverhaltensdefizite von
 FahrerInnen", in ZfV
 2015, 412-415

Significant - experienced drivers
Tendentiously higher - experienced drivers

- Incorrect use of indicator
- Lane change above speed limit
- Lane change at the last minute
- Incorrect approach of traffic lights
- Incorrect behaviour at "Give Way" sign
- Incorrect slowing
- Incorrect behaviour when obligated to give way
- Insisting on priority
- Endangering other road users while changing lanes
- Incorrect side distance
- No situation awareness
- Incorrect overtaking
- Incorrect cornering



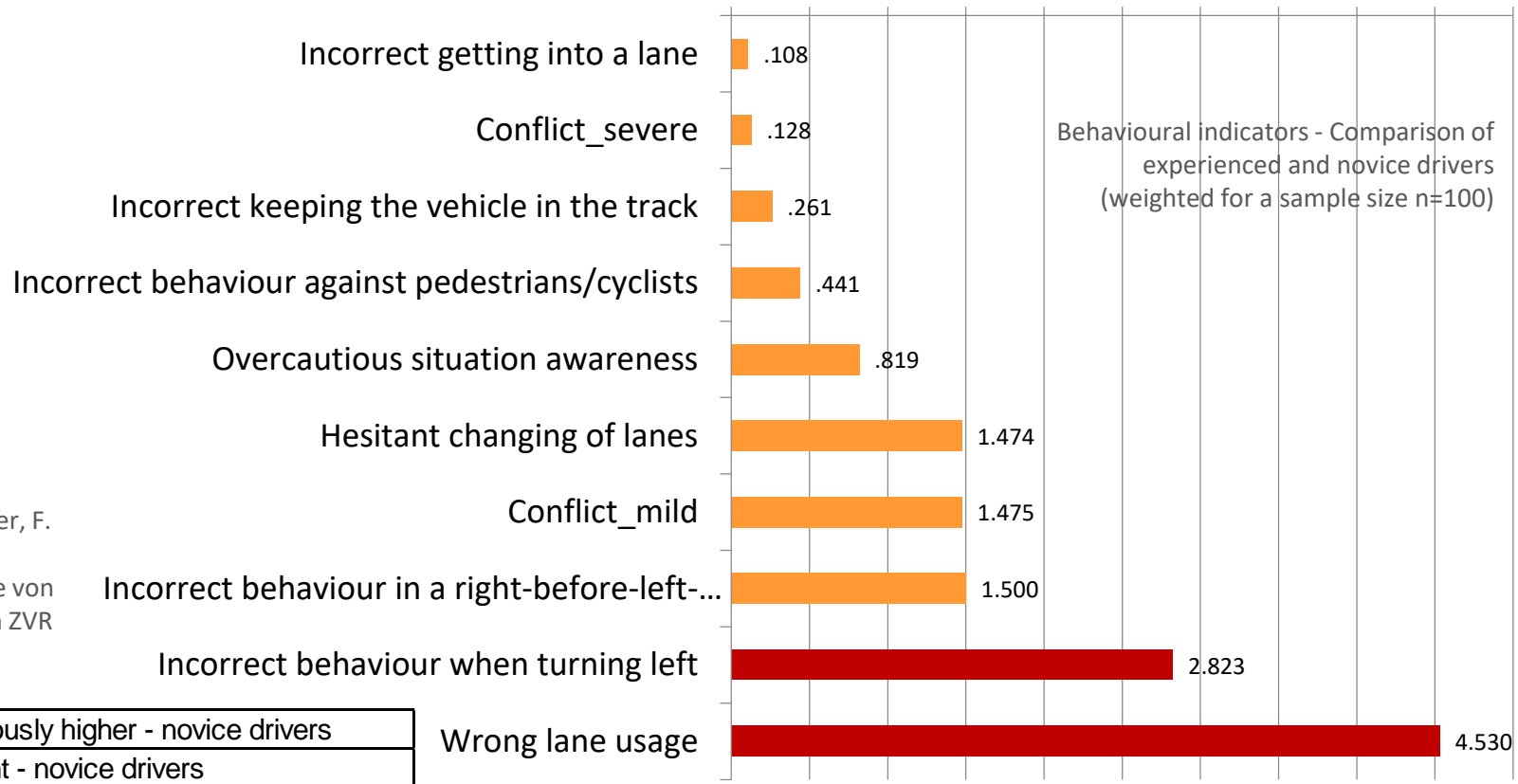
Behavioural indicators - Comparison of experienced and novice drivers (weighted for a sample size n=100)



Differences in the frequency of driving errors: The novice



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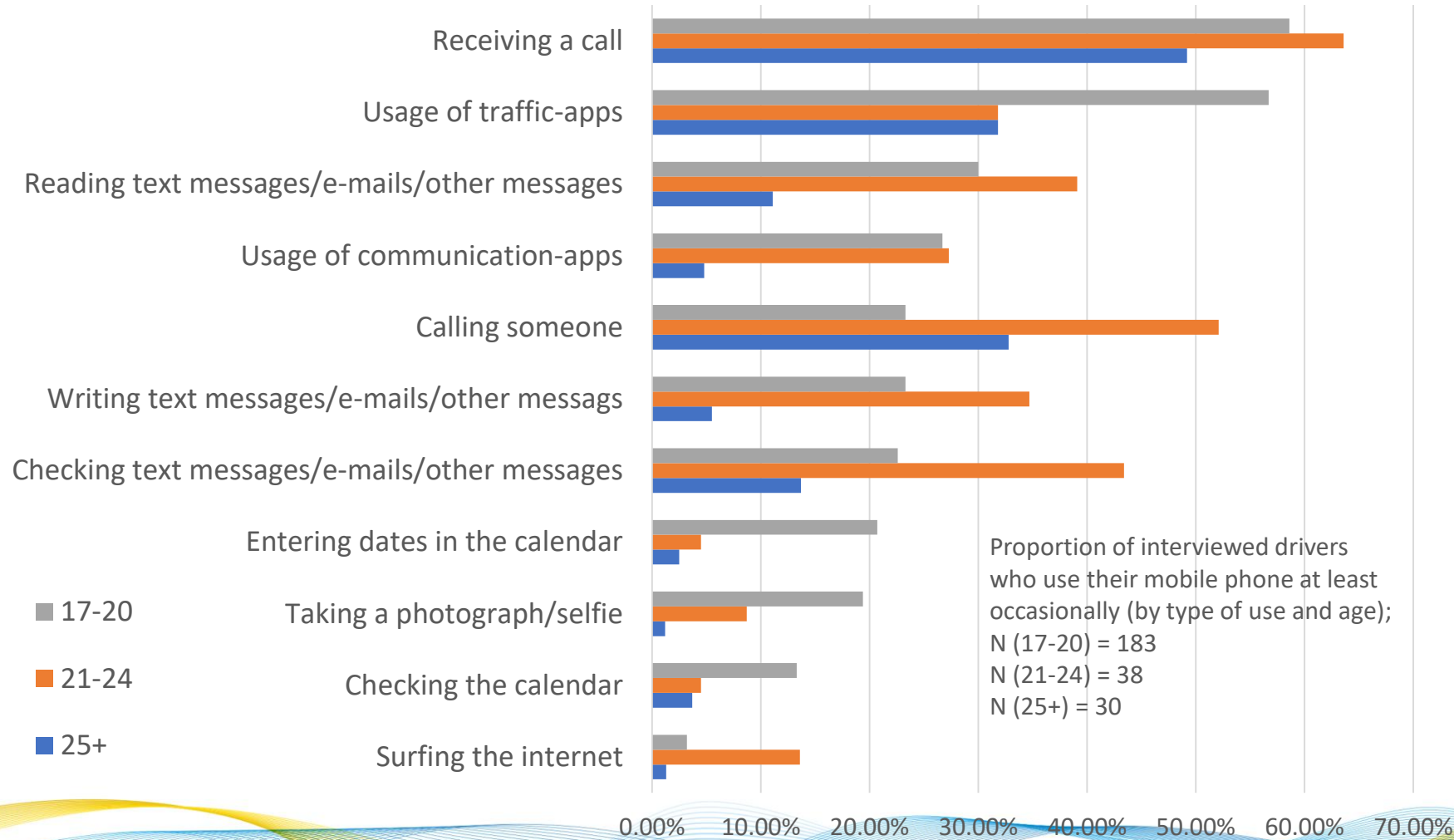
Behavioural indicators - Comparison of experienced and novice drivers (weighted for a sample size n=100)

Source:
Survey by KFV, 2015
Steinbauer, J., Schneider, F. (2015)
"Fahrverhaltensdefizite von FahranfängerInnen", in ZVR 2015, 412-415

	Tendentiously higher - novice drivers
	Significant - novice drivers



Usage of mobile phones by young drivers (survey 2015)



In-Depth study on crash causation with young drivers

- In-Depth database CEDATU (Central Database for In-Depth Accident Study)
 - Accident reconstruction program PC Crash
 - Photogrammetric evaluation
 - braking marks, sliding marks, lanes and end position
 - Damage pattern of the vehicles, biomechanical traces of the injured
 - Determination of collision speed and initial speed
- Distinction between accident-contributing and accident-causal factors
 - 5 main groups: human, vehicle, infrastructure, weather and lightning conditions, other factors



In-Depth study on crash causation with young drivers

- Sample of 166 accidents in which at least one passenger car was involved
- Number of drivers: 176
- Age groups:
 - 18-20 years old
 - 21-22 years old
 - 23-25 years old
 - >25 years old
- Nota bene: different age description in CEDATU:
18 = 18th life year, practically, these are 17 and something ...

21 ist the 3rd year!



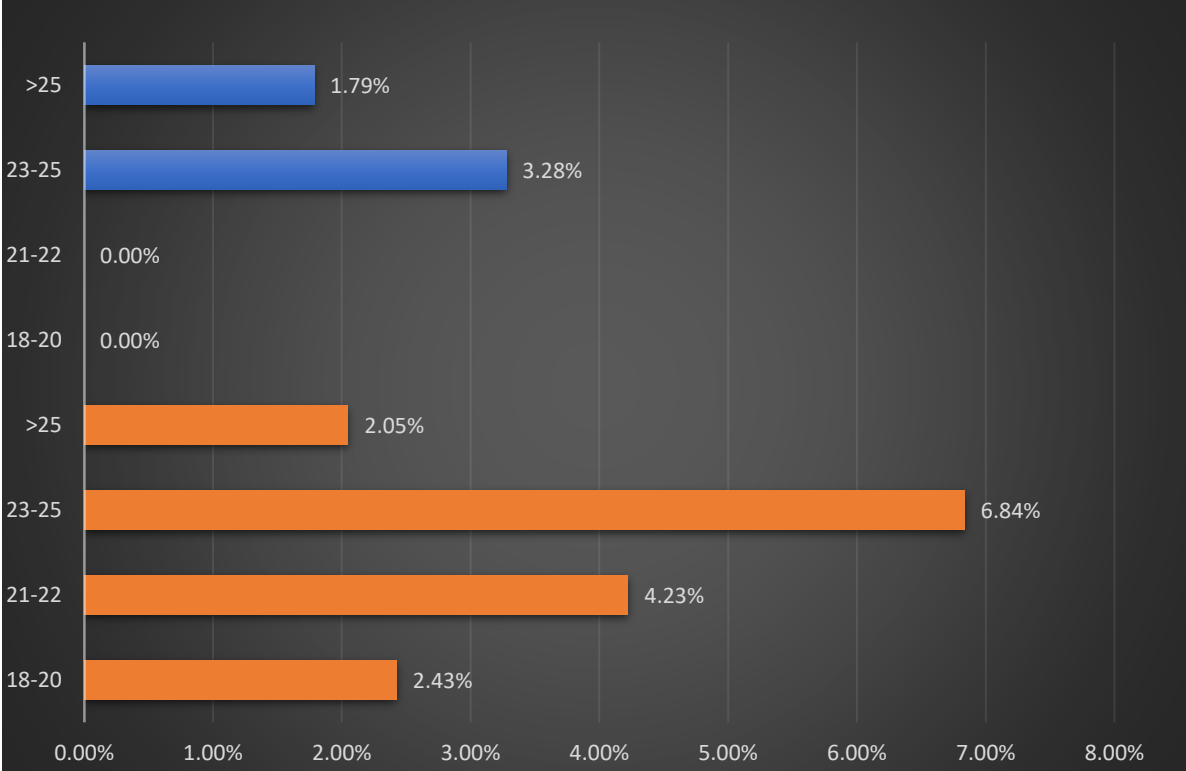
Results at a glance ...

Factors	contributing				causal			
	18-20	21-22	23-25	>25	18-20	21-22	23-25	>25
Turn, Drive backwards	0,97%	0,94%	2,56%	3,08%	0,00%	3,51%	0,00%	3,57%
Ingested substances	2,43%	4,23%	6,84%	2,05%	0,00%	0,00%	3,28%	1,79%
Experience	6,31%	4,23%	0,85%	0,00%	1,75%	0,00%	0,00%	0,00%
Road damage	2,91%	0,94%	0,85%	1,03%	0,00%	0,00%	0,00%	0,00%
Driver condition	0,00%	0,00%	0,00%	0,51%	0,00%	0,00%	0,00%	0,00%
Vehicle other	0,00%	0,00%	0,43%	0,00%	0,00%	0,00%	0,00%	0,00%
Wrong behavior towards the pedestrian	0,00%	1,41%	0,85%	0,00%	1,75%	1,75%	0,00%	0,00%
Fault of the driver, road use	7,28%	6,57%	4,70%	3,08%	12,28%	7,02%	14,75%	5,36%
Speed	7,77%	3,29%	4,27%	2,56%	12,28%	12,28%	9,84%	1,79%
Speed limit	0,49%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
Light conditions	11,65%	14,08%	13,68%	13,33%	1,75%	0,00%	0,00%	0,00%
Unexpected behavior of other road users	2,91%	3,29%	4,27%	3,59%	26,32%	33,33%	39,34%	55,36%
Rain	2,91%	4,69%	2,99%	2,05%	0,00%	0,00%	0,00%	0,00%
Physical condition	0,49%	0,00%	0,00%	4,62%	0,00%	0,00%	0,00%	0,00%
Sudden obstacle	0,00%	0,00%	0,00%	1,03%	0,00%	0,00%	1,64%	0,00%
Psychological factors	1,94%	0,00%	1,28%	0,51%	14,04%	5,26%	0,00%	0,00%
Stationary traffic	0,00%	0,00%	0,00%	0,51%	0,00%	0,00%	1,64%	1,79%
Crosswalk, cycle path	0,00%	0,47%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
Safety distance, reaction delay	8,74%	10,33%	10,26%	10,77%	14,04%	15,79%	13,11%	12,50%
Safety precautions	0,00%	0,00%	0,00%	1,03%	0,00%	0,00%	0,00%	0,00%
View restriction	0,00%	0,94%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
Visibility	5,83%	5,63%	9,83%	9,23%	0,00%	1,75%	0,00%	0,00%
Road course	21,84%	20,19%	22,22%	25,64%	0,00%	0,00%	0,00%	0,00%
Road condition	6,80%	9,39%	3,85%	5,13%	0,00%	0,00%	0,00%	0,00%
Technical defects	0,49%	0,00%	0,00%	0,51%	0,00%	0,00%	0,00%	0,00%
Overtake	1,94%	1,88%	1,28%	1,03%	7,02%	7,02%	3,28%	8,93%
Inattention	0,49%	0,94%	0,85%	0,00%	0,00%	1,75%	0,00%	0,00%
Inattention, distraction	2,43%	4,69%	5,13%	5,13%	3,51%	5,26%	6,56%	3,57%
Traffic situation	0,49%	0,00%	0,43%	1,54%	0,00%	0,00%	0,00%	0,00%
Priority fault	1,46%	0,94%	1,28%	1,03%	1,75%	5,26%	6,56%	5,36%
Wildlife	0,49%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
Weather	0,97%	0,94%	1,28%	1,03%	0,00%	0,00%	0,00%	0,00%
TOTAL	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%

- Interesting
- No result
- Outliers



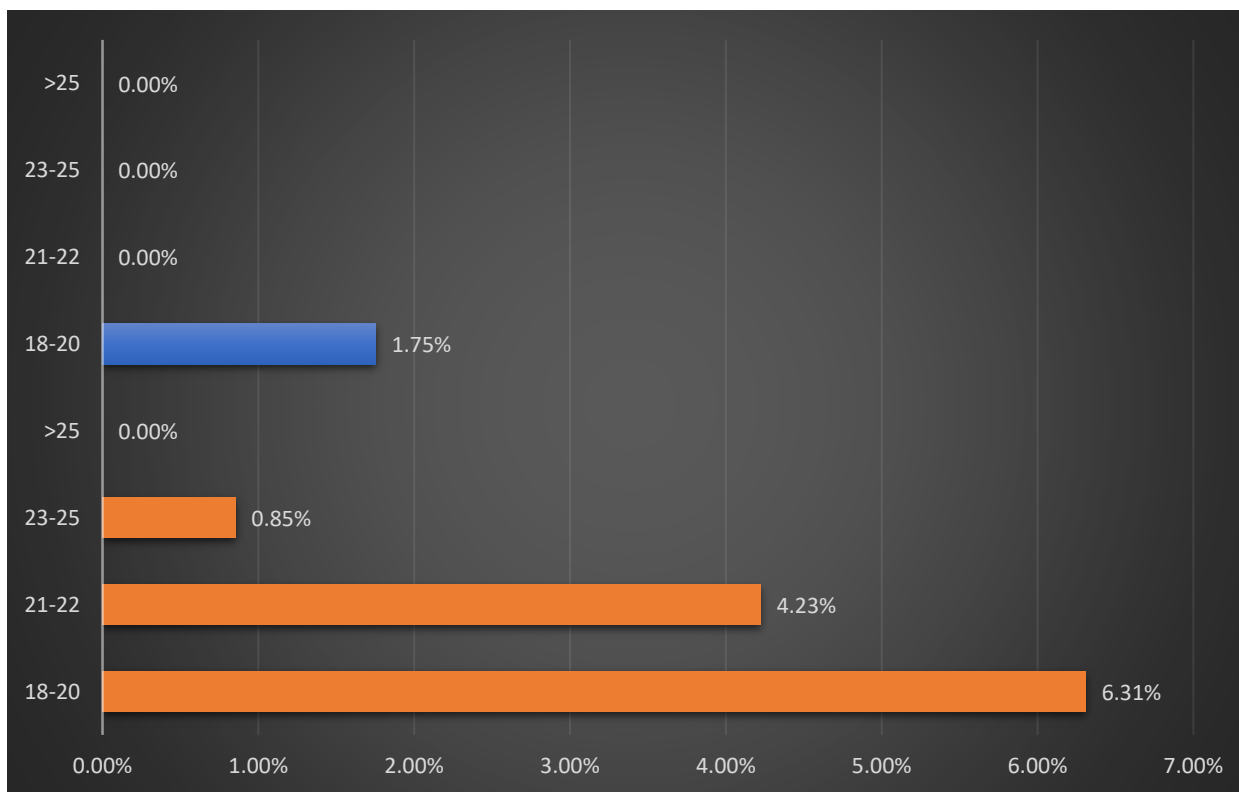
Driving under influence



- accident-causal
- accident-contributing



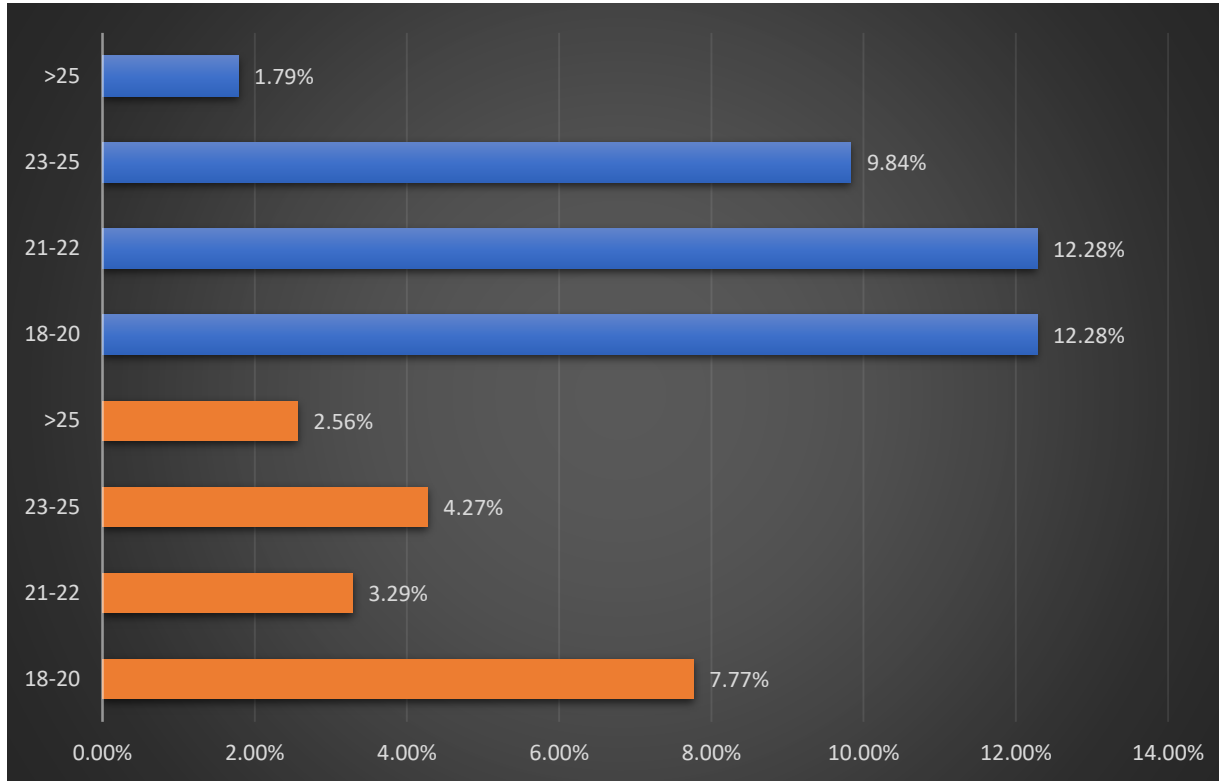
Experience-related



- accident-causal
- accident-contributing



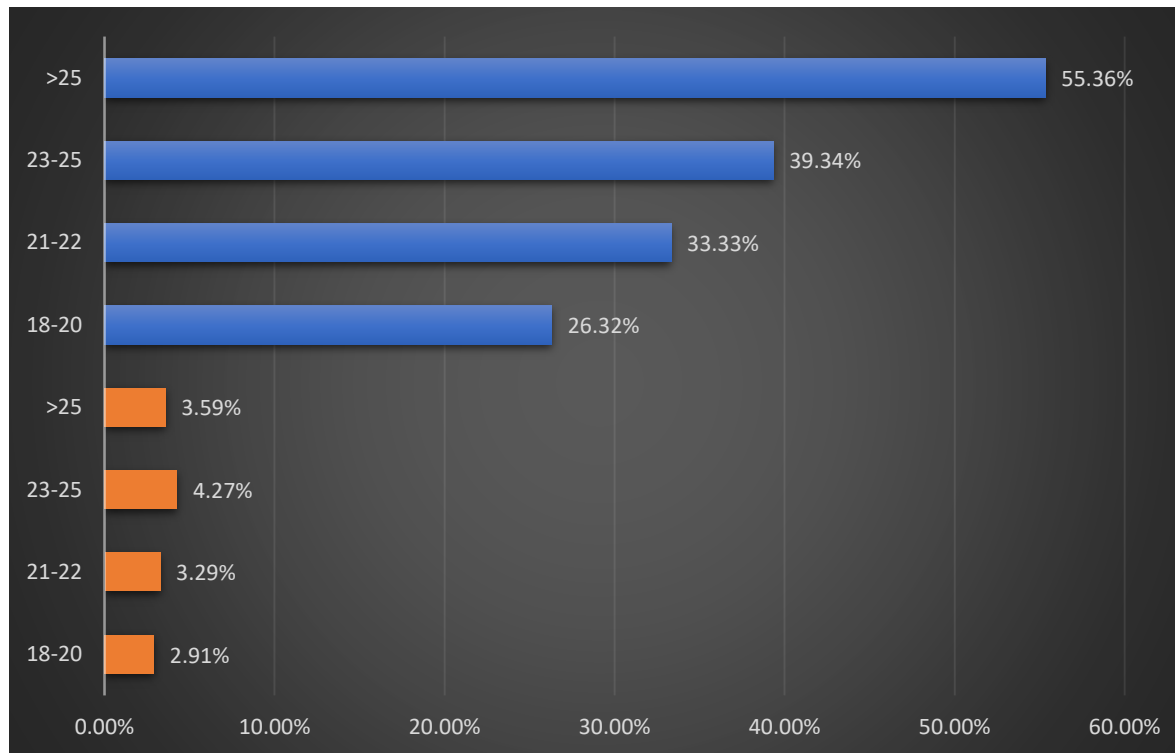
Speed



- accident-causal
- accident-contributing



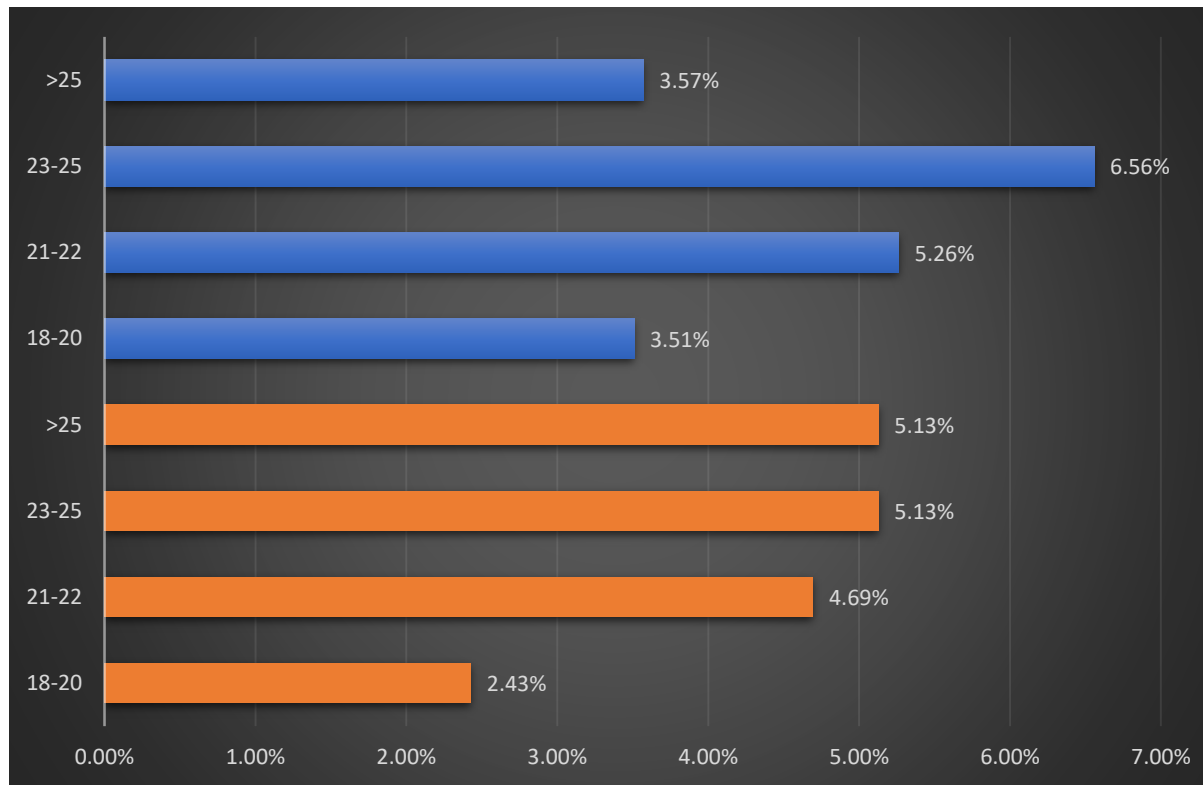
Unexpected behavior of other road user



■ accident-causal
■ accident-contributing



Inattention / distraction



- accident-causal
- accident-contributing



Police-reported data Austria, 2012 - 2016



Main cause (police) total 2012 to 2016	Fatalities				Injuries			
	17-19	20-21	22-24	25+	17-19	20-21	22-24	25+
empty	16,47%	9,21%	16,67%	16,45%	8,68%	8,77%	9,31%	9,40%
inappropriate speed	51,76%	55,26%	43,33%	22,69%	23,69%	20,72%	17,40%	11,24%
Right of way violation, red light running	7,06%	6,58%	1,11%	13,94%	20,14%	20,25%	22,21%	23,78%
overtaking	7,06%	6,58%	5,56%	8,91%	3,77%	3,76%	3,47%	3,74%
inattention, distraction	11,76%	15,79%	14,44%	24,55%	28,23%	28,25%	28,92%	33,33%
drugs, alcohol	1,18%	0,00%	2,22%	1,62%	3,22%	4,90%	5,20%	4,47%
fatigue	1,18%	3,95%	10,00%	2,84%	1,91%	2,28%	1,74%	1,42%
pedetrian error	0,00%	0,00%	0,00%	0,08%	0,14%	0,17%	0,19%	0,35%
heart attack	0,00%	0,00%	1,11%	3,81%	0,25%	0,34%	0,31%	0,89%
short time headway	0,00%	0,00%	3,33%	0,65%	4,88%	6,28%	6,85%	6,74%
violation of other rules	3,53%	2,63%	2,22%	2,51%	2,04%	1,82%	2,24%	2,38%
techniocal defect, poor cargo securing	0,00%	0,00%	0,00%	0,73%	0,70%	0,58%	0,54%	0,71%
obstacle on the road	0,00%	0,00%	0,00%	1,22%	2,35%	1,87%	1,64%	1,54%
total (n)	85	76	90	1234	14270	9302	12076	117722



There was good reason: Reform 2017

- Probationary period extended from two to three years
- Mobile-phone use included in list of offences
- Entry into force of law July 1st, 2017



In the future: Other offences to probably consider

- Zebra, bicycle crossing
 - Good evidence in crash records
- Lower speed tolerance
 - 10 km/h urban, 20 km/h rural
- Lane changes
 - Good evidence, different intervention needed
- Wrong way driving
 - Could be deleted





Thanks for listening!

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