



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





Impact of pre-learner driver education on risk perception in Irish adolescents

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Overview

- Background to the study
- Theoretical framework
- Sample and measures
- Results
- Implications
- Recommendations



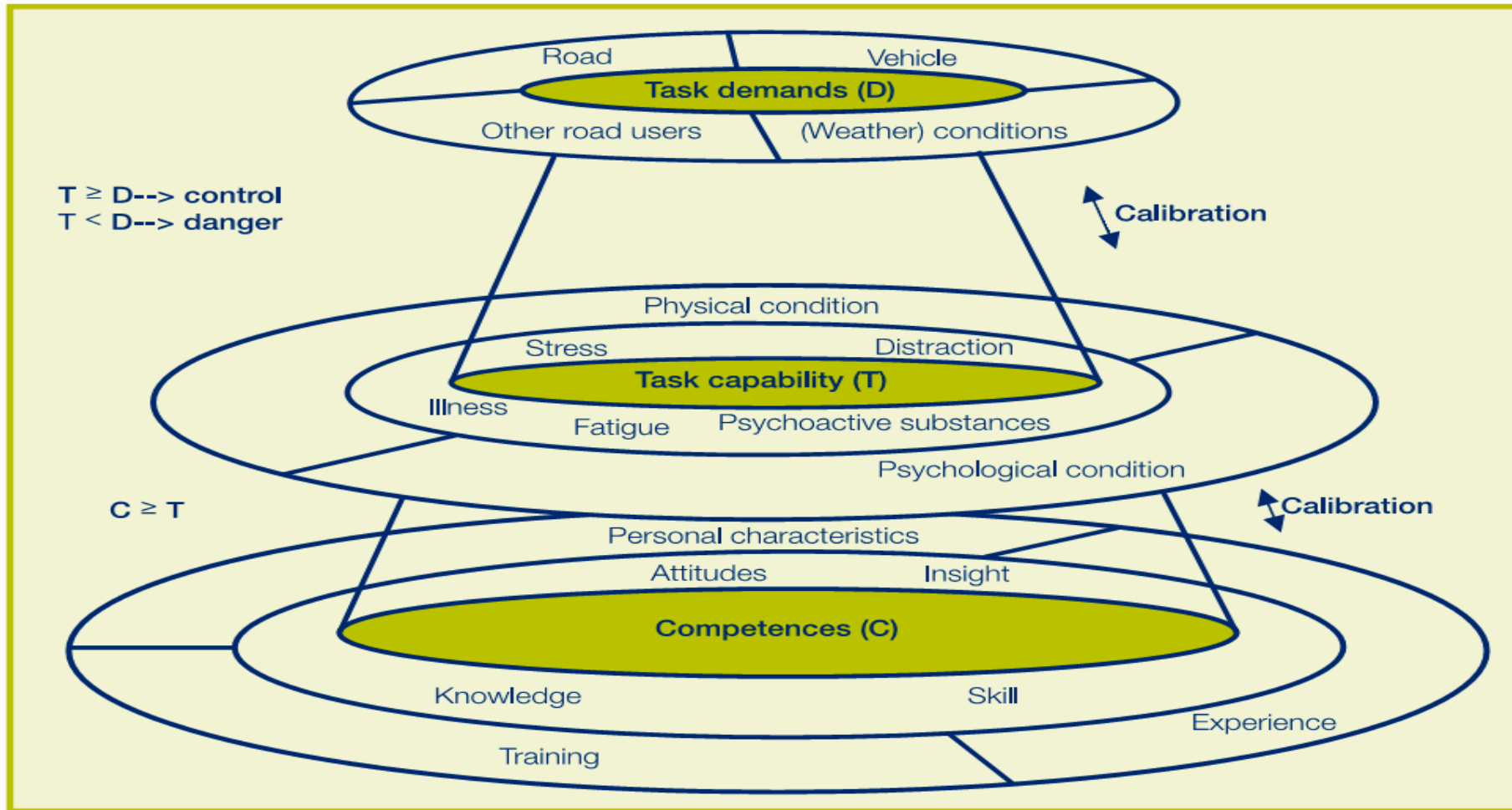
Pre-learner driver education: What and Why



- Pre-learner drivers
 - Adolescents who have not yet obtained a provisional drivers licence
- Pre-learner driver education (PLDE)
 - Class-room based instruction
 - Intellectual/cognitive aspects of driving
 - Knowledge, thinking skills, attitudes
- Why PLDE
 - Risky attitudes towards driving develop from an early age
 - “Cradle Attitudes, Grave Consequences” (Waylen & Mc Kenna, 2002)



Task Capability Interface Model (Fuller, 2005)



(see Wegman & Aarts, 2006, p.34)

(GDE Matrix – Goals for Driver Education)

Levels	Area	Knowledge and skill	Risk increasing aspects	Self assesment
Goals for life and skills for living		Lifestyle, age, group, culture, social position etc, vs. driving behaviour	Sensation seeking, Risk acceptance, Group norms, Peer pressure	Introspective competence, Own preconditions, Impulse control
Goals and context of driving		Modal choice, Choice of time, Role of motives, Route planning	Alcohol, fatigue, Low friction, Rush hours, Young passengers	Own motives influencing choices, Self-critical thinking
Driving in traffic		Traffic rules, Cooperation, Hazard, perception, Automatization	Disobeying rules, Close-following, Low friction, Vulnerable r.u.	Calibration of driving skills, Own driving style
Vehicle control		Car functioning, Protection systems, Vehicle control, Physical laws	No seatbelts, Breakdown of vehicle systems, Worn-out tyres	Calibration of car-control skills

(Hatakka et al., 2002)



Participants

Programme	Groups / Clusters	Number of students		
		Baseline (T1)	Post-intervention (T2)	Follow-up (T3)
Programme A	5	244	207	216
Programme B	8	430	344	383
Programme C	6	265	231	226
Group D	5	269	217	210
Group E	4	160	126	134
Controls	10	291	199	243
Whole School Drop-out	3	221	-	-
Total	41	1880	1324	1412
DEMOGRAPHICS				
Males	54%	Females	46%	
Urban Dwellers	62%	Rural Dwellers	38%	
Parents with 3 rd level Ed.	46%	Parents with 2 nd Level Ed	39%	



Questionnaire Measures

FACTOR	FOCUS
Demographics	Age / Gender / Location / School Type / Prog. Type
Direct Experience	Road User / Driving / Crash Experience Manchester D. B. Questionnaire (Reason et al.1990)
Observational Learning	Exposure to aberrant driving styles
Personality	Sensation Seeking - AISS Scale (Arnett, 1994) Impulsiveness - BIS-Short Form (Spinella, 2007) 5-Factor Model - IPIP (Goldberg, 1998)
Factual Knowledge	Baseline General Knowledge Post-Intervention multiple-choice quiz (Rules of the Road)
Cognitive Skill - Risk Perception	Objective and Subjective risk estimations Self-efficacy beliefs Vignette
Programme Evaluation	Evaluation of programme content & delivery Suggestions for programme improvement



Interest in driving

- **At the start of the study**
 - 80% planned to obtain a Learner Driver Permit asap
 - No significant effects of age, gender, SES or PLDE
- **By the end of the study**
 - 46% had taken the driver theory test
 - Males twice as likely to pass
 - No significant effect of PLDE on pass rates
 - 35% had passed their test and had a Learner Permit
 - Males significantly more likely to have a Learner Permit
 - Students who took PLDE courses were less likely to have a permit



Previous experience with driving

- **The majority of the students had some experience with driving**

- 55% at Time 1 rising to 71% at the end of the study
- Males twice as likely
- Rural dwellers more likely to have driven
- Some personality traits predicted early car driving
- No effects of attending PLDE on vehicle use



- **Unaccompanied driving**

- Almost one-third reported driving unaccompanied in all three tests
- Males twice as likely to drive unaccompanied than females
- No significant effect of PLDE on reducing unaccompanied driving



- **Driving under risk-increasing conditions**

- With other teenagers in the car 16%
- Fatigue and/or feeling angry/stressed 10%
- Using hand-held or hands-free phone (5% - 6%)
- Performing illegal manoeuvres 4%, driving fast to show off 4% racing other cars 2%



Risk perception and driving

In order to perceive risk accurately drivers must;

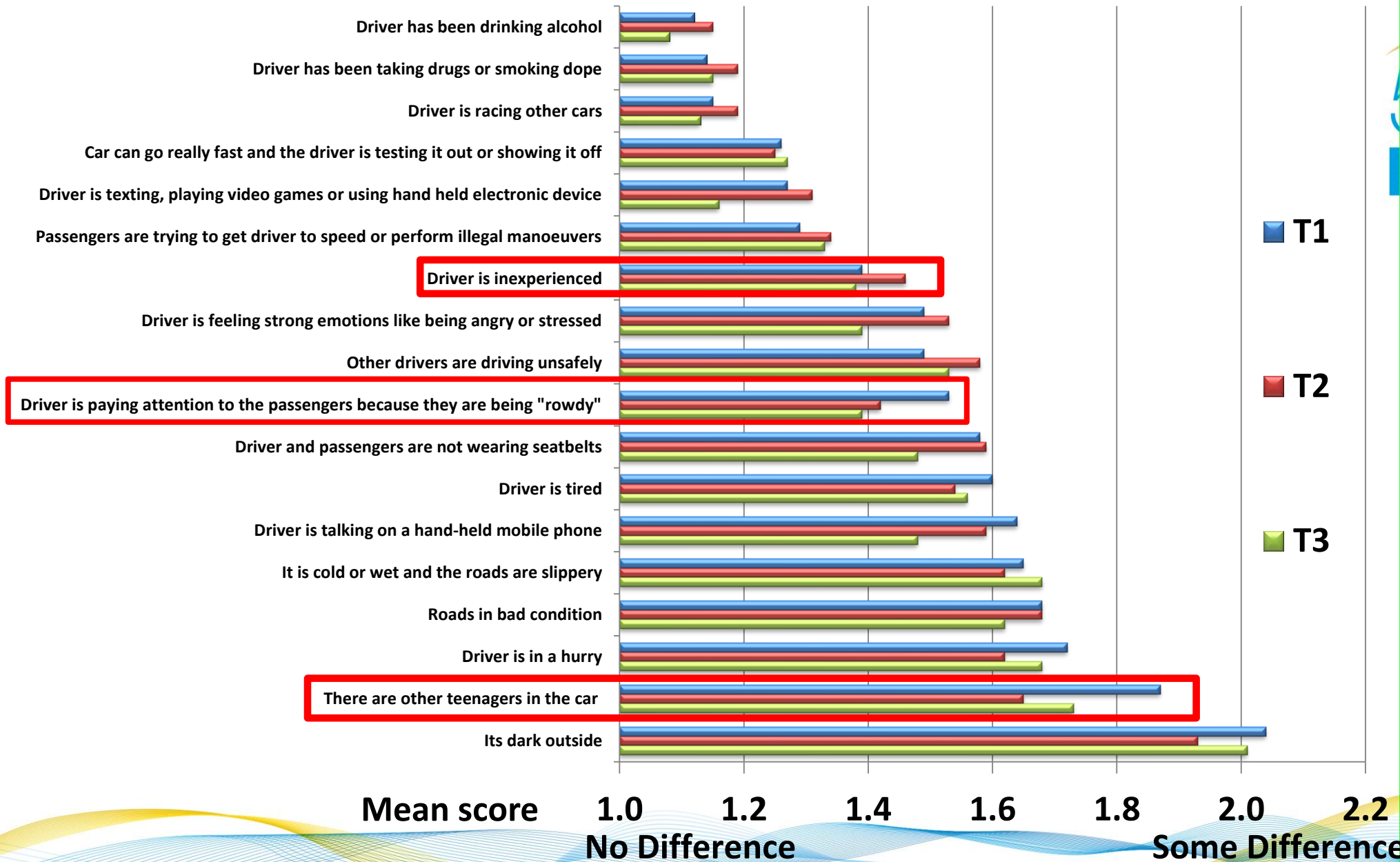
- Identify potential hazards
- Assess their skill in avoiding these hazards
- Recognize the risk in potential hazards (Deery, 1999)

Young drivers perceive less risk in high-risk activities

- Poor risk perception rather than deliberate risk taking (Finn & Bragg, 1986)
- Learned Riskiness (Fuller, 1992)
 - Experience with or exposure to risky driving hinders the calibration of risk perception

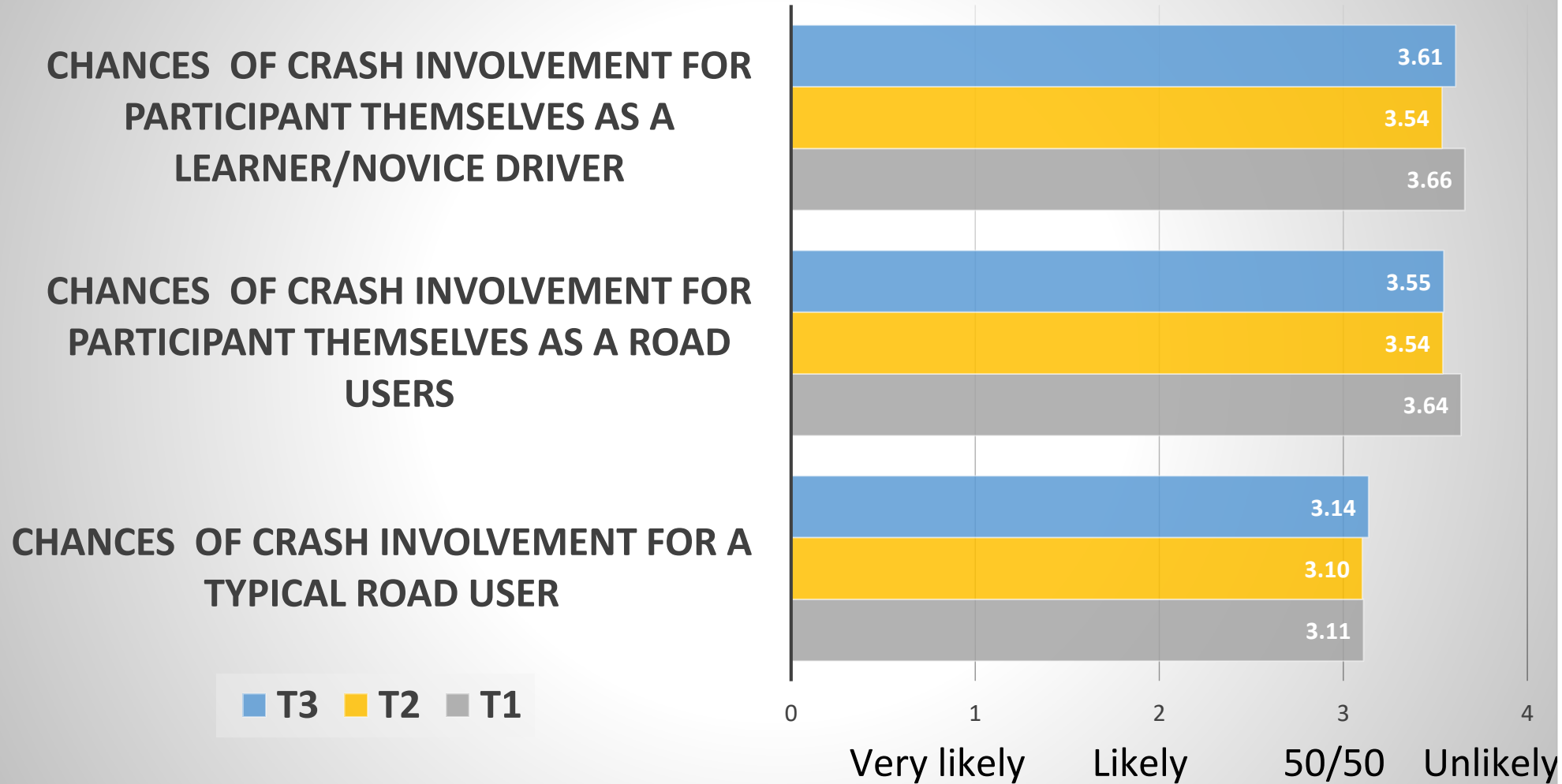


What makes a difference in whether or not teen drivers are safe in cars?

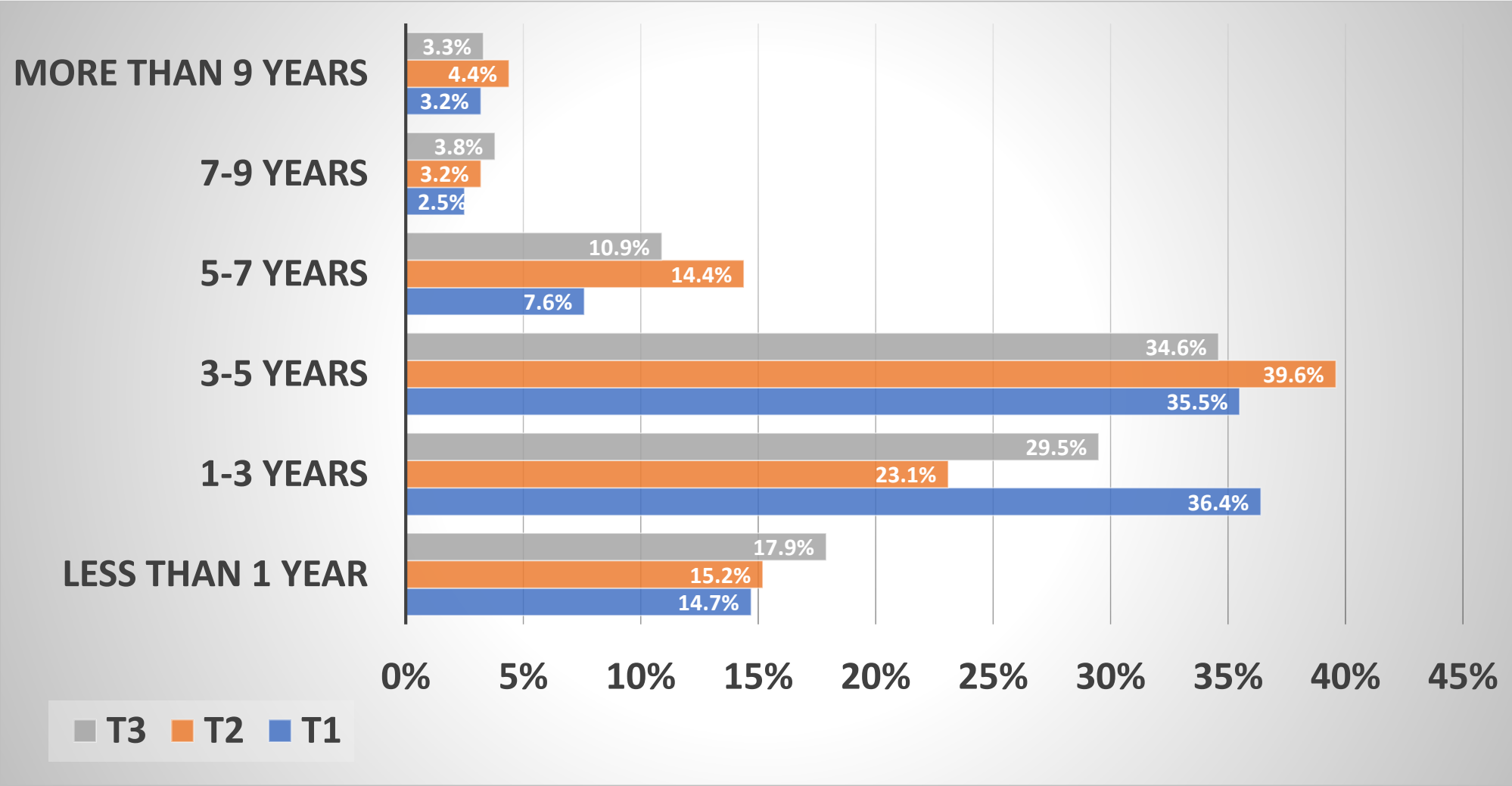


Perceived risk of crash involvement

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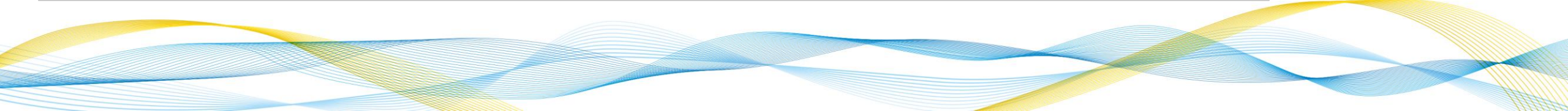


How much time does it take to reduce driving risk?

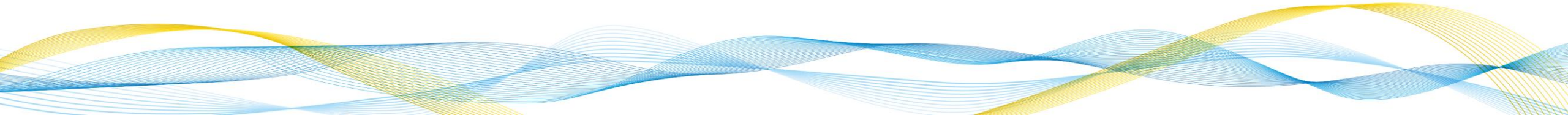
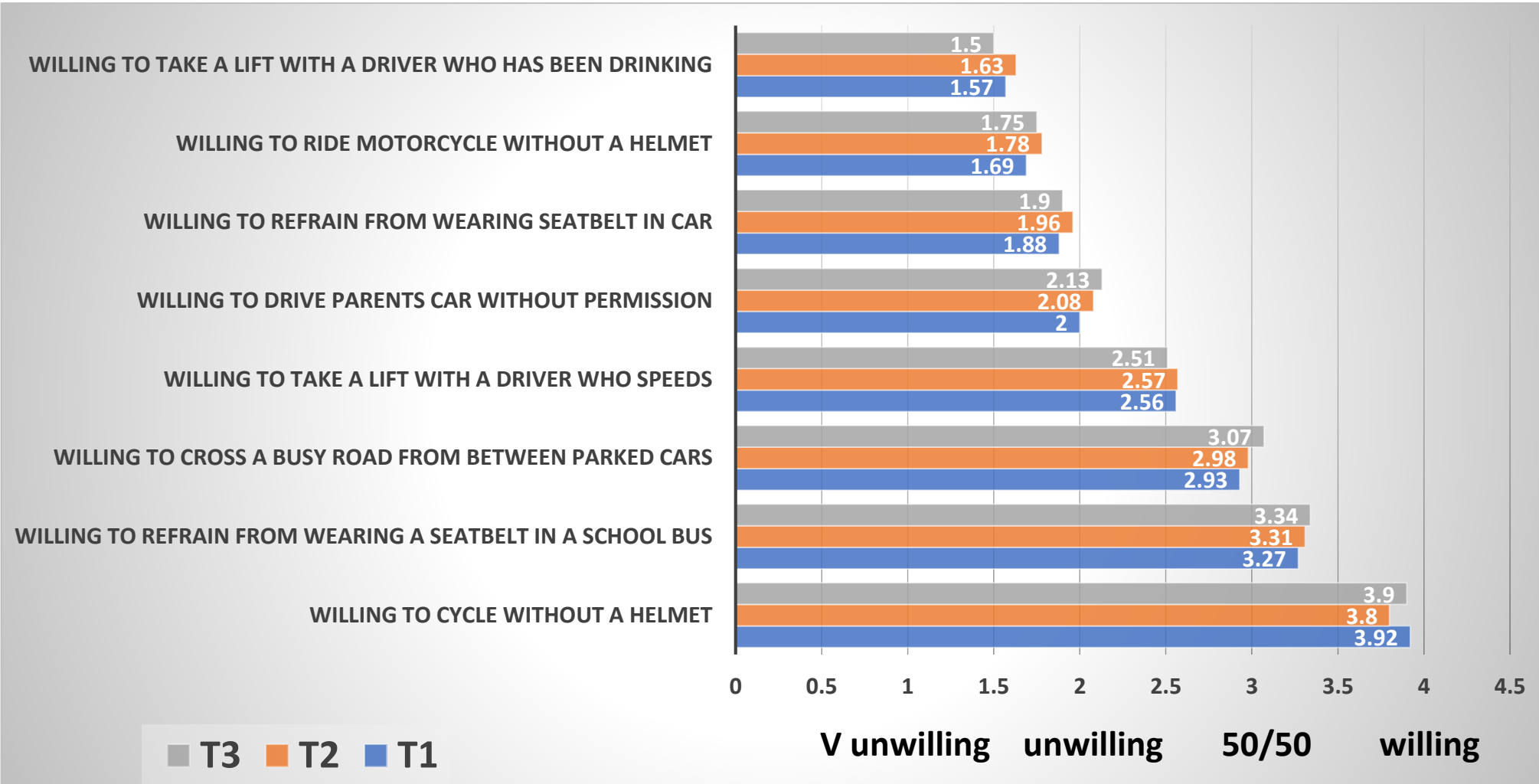


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Willingness to take risks in traffic



Explicit and implicit risk perception

Consider this:

Mark is 17 years old and has had a learner permit to drive for 6 months. One Saturday night while his parents are away he decides to use his dad's car to take some of his friends to a disco in a nearby town. The disco finishes at 2am and on the way home Mark decides to see how fast the car can go.

Your Task:

- List all the possible consequences that you can think of just as they come into your mind



Explicit and implicit risk perception

Consequence	Baseline	Post-intervention	Follow-up
Crash	85.7%	88.0%	85.3%
Death	51.3%	43.1%	50.7%
Injury	48.8%	33.6%	38.7%
Caught by Gardai	38.2%	31.8%	38.1%
Damage			
Cars/property	34.5%	23.9%	17.1%
Loose Control	22.9%	14.9%	14.9%
Legal problems	21.7%	13.9%	3.2%
Trouble with			
parents	15.6%	13.0%	17.5%
Increased			
risk/danger	11.5%	13%	9.3%
Moral issues	5.3%	2.3%	1.0%
Nothing	12.9%	12.3%	9.5%
Benefits	4.9%	2.6%	1.5%



Implicit risk perception

Order in which serious safety-related consequences were listed:

1. Crashing
2. Losing control
3. Increased risk
4. Death / injury

- Students listed these consequences significantly more quickly at T2/3
- Attending PLDE significantly improved students ability to think of serious consequences quickly in the short-term -not the long-term
- Absent links in mental representations
 - One third of the students who listed Crashing did not go on to list Injury and/or Death as a possible consequence
 - PLDE students 25% more likely to associate death and injury with crashing
- Overall conclusion
 - **PLDE had a positive effect on implicit risk perception**



Summary

- Students had some capability to perceive driving-related risk
- There were small statistically significant improvements in risk perception in the short but not the longer term
- No consistent effect of PLDE on improving calibration of risk perception
- PLDE produced significant improvements in availability and accessibility of key risk outcomes
- Previous exposure to aberrant driving impacted negatively on risk perception in all tests
 - PLDE did not compensate for this



Recommendations

- PLDE should be made available for all second-level students
- Standards and guidelines required for TY courses to ensure that they are of the highest quality
- New content and activities should be developed to address key risk-increasing factors for youngsters
 - Inexperience
 - Immaturity
- Parents and the community at large need to be made aware that their driving style is having an impact on young adolescent pre-drivers
 - Scope for involving parents in the development and delivery of PLDE courses



Thank you for your attention!

**ANY
QUESTIONS?**

