Young drivers and behaviour change

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Agenda

1	Introduction
2	Young Drivers (age and experience)
3	Young Drivers (risk factors)
4	Case study: Wheels, skills and thrills
5	Behaviour change techniques

"That youthful drivers…are over-represented in accidents, fatal accidents, and in fatalities, considerably beyond their proportion in the driving population, has been well known for several decades…"

Goldstein (1972)

Goldstein, L. G. (1972). Youthful drivers as a special safety problem. *Accident Analysis & Prevention*, *4*(3), 153-189.

Young driver characteristics

- Relative to other road users are the highest risk

- Are under experienced and under skilled relative to older drivers

- Tend to over estimate their own driving ability

- Have a tendency to take more risks

- Are influenced by other passengers in their vehicle

But...

- But they have faster reaction times

- Are able to absorb information quickly

Young driver risk factors

Risk factor change	Rationale
Older age at licensure	Known to be associated with a reduction in risk
Less night time driving	Known to be a particularly risky situation for young and novice drivers from GDL literature
Less driving with peer age passengers, or fewer peer age passengers	Known to be a particularly risky situation for young and novice drivers from GDL literature
More supervised on-road experience pre- or post-test	Known to lower collision risk
More seat belt wearing	Uncontroversial association with injury outcomes
Lower levels of drink driving	Uncontroversial association with collision risk
Lower speeds	Uncontroversial association with collision risk and injury outcomes
Higher hazard perception skill	Hazard perception skill is the only driving skill shown to be associated with collision risk over multiple studies
Less close following	Close following has been shown to be associated with collision risk
Less use of distracting devices when driving	Distraction is widely shown to impact on driver attentiveness, which is strongly associated with the chances of missing timely stimuli on the road ahead
Reducing unsafe attitudes and behavioural intentions regarding all of the above	In general it is accepted that safer attitudes and behavioural intentions will be associated somewhat with safer behaviour, and (to a smaller degree) injury and collision outcomes

What we know (age)
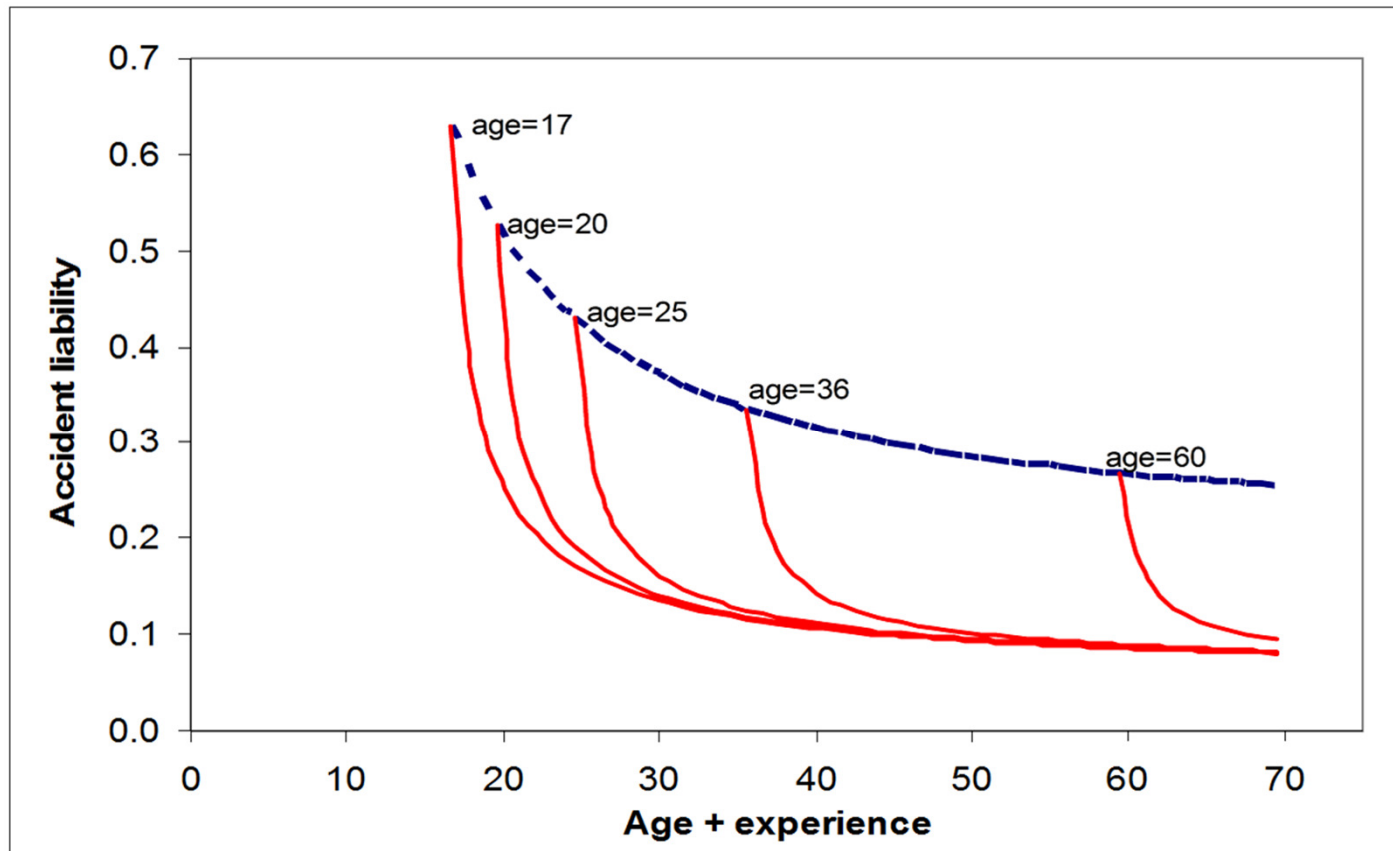
What we know (experience)
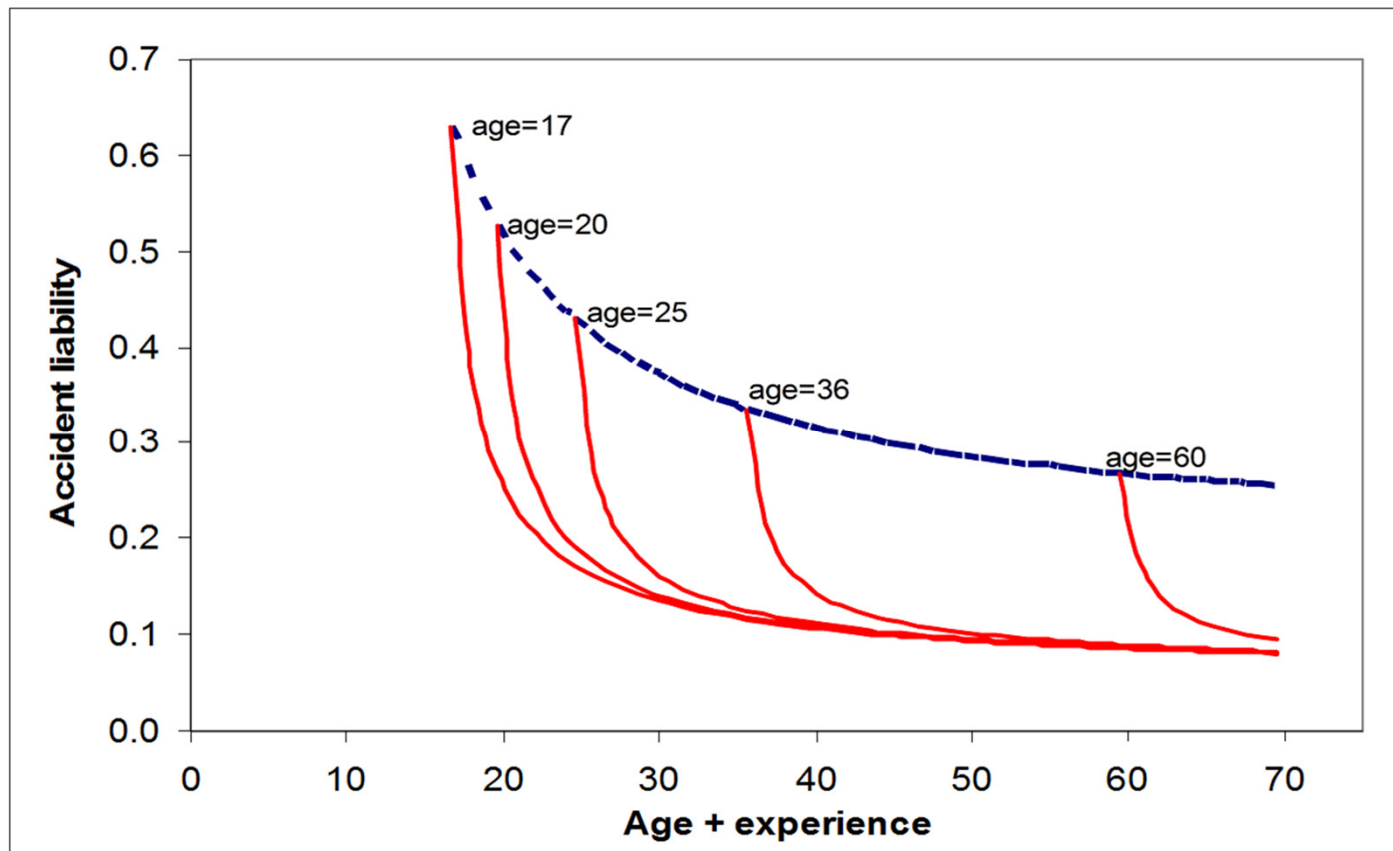
What we know (crash types)

Total number of car (car, taxi minibus) drivers in collisions with
contributory factors and attended by the police in 2014

| Contributory factor	Aged 17-24	Aged 25+
Slippery road (due to weather)	8.7%	3.8%
Exceeding speed limit	5.5%	1.7%
Travelling too fast for conditions	7.8%	2.7%
Loss of control	12.9%	5.4%

It must have a positive impact, right?
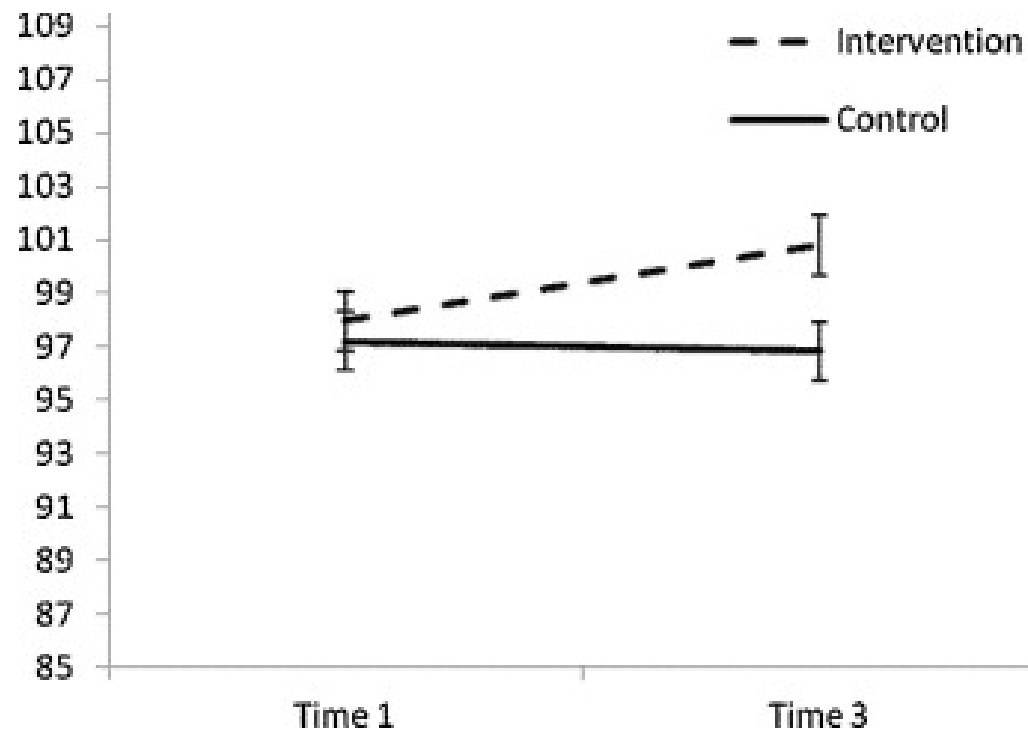
Glendon, A. I., McNally, B., Jarvis, A., Chalmers, S. L., & Salisbury, R. L. (2014). Evaluating a novice driver and pre-driver road safety intervention .*Accident Analysis & Prevention*, *64*, 100-110.

It must have a positive impact, right?

Glad, A. (1988). Phase 2 driver education, effect on accident risk. Oslo, Norway: Transport Institute.

Hazard perception
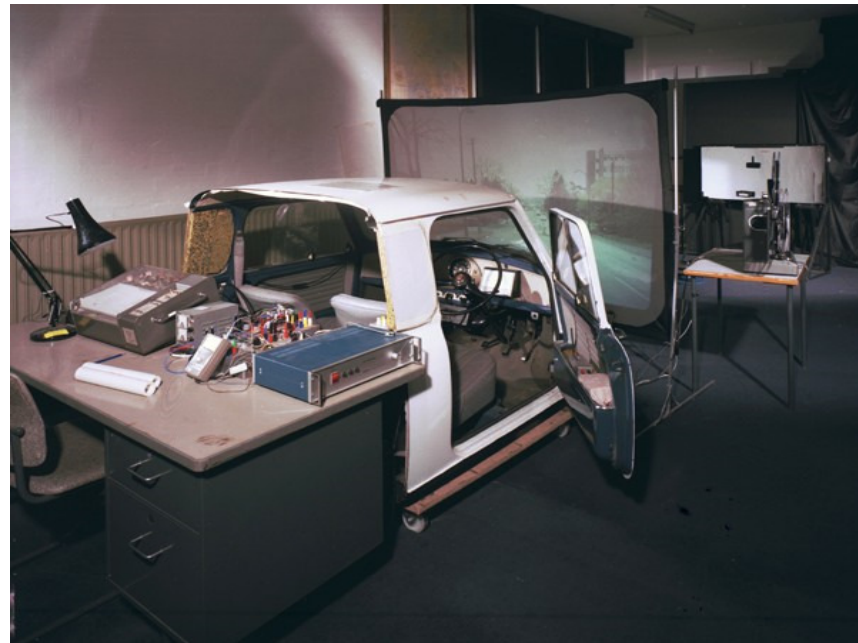
Hazard perception

Hazard perception

Table 9.8: Estimated effects of introducing the hazard perception component of the theory test on first year reported accidents					
		All public road accidents	**Non-low-speed public road accidents**	**Non-low-speed public road accidents where some blame**	**'Active' public road accidents**
Percentage reduction in accident liability	Central estimate	1.3%	11.3%	17.4%	6.8%
	95% confidence value*	−7.5%	0.3%	3.0%	−4.7%
* One can be 95% confident that the true values are at least as great as this.					

Wells, P., Tong, S., Sexton, B., Grayson, G., & Jones, E. (2008). *Cohort II: a study of learner and new drivers. Volume 1—Main Report* (No. 81). Road Safety Research Report.

TRL's approach

- TRL focuses its WRRS interventions in the following areas:

    - TRL recommended good practice
    - Hazard Perception training
    - Behaviour change techniques
    - Specific areas of expertise (in-car training, roadside working training)

TRL's recommended 'good practice'

- Collect data

- Have management system based on 'plan-do-check-act'

- Simple 'baseline' good practice (licence checks, induction, seat belts)

- Measures to reduce driving *per se*

- Measures to reduce driving during highest risk periods related to sleepiness (2-6am, 2-4pm)

- Measures to reduce driving while distracted

- Measures to reduce driving while under time pressure

- Measures focused on specific risk factors for a given sector or business

Colas/TRL roadside working course

- Plan for, and work safely at, the roadside

- Understand and manage risk

- Plan working day to avoid fatigue

- Understand they are largely responsible for their own safety

- Originally developed for TRL employees

- Content developed from TRL research

Case study – Wheels, skills and thrills

- A voluntary intervention targeting a group of young male drivers

- A specific geographic region in Bristol

- 'Enthusiastic' drivers

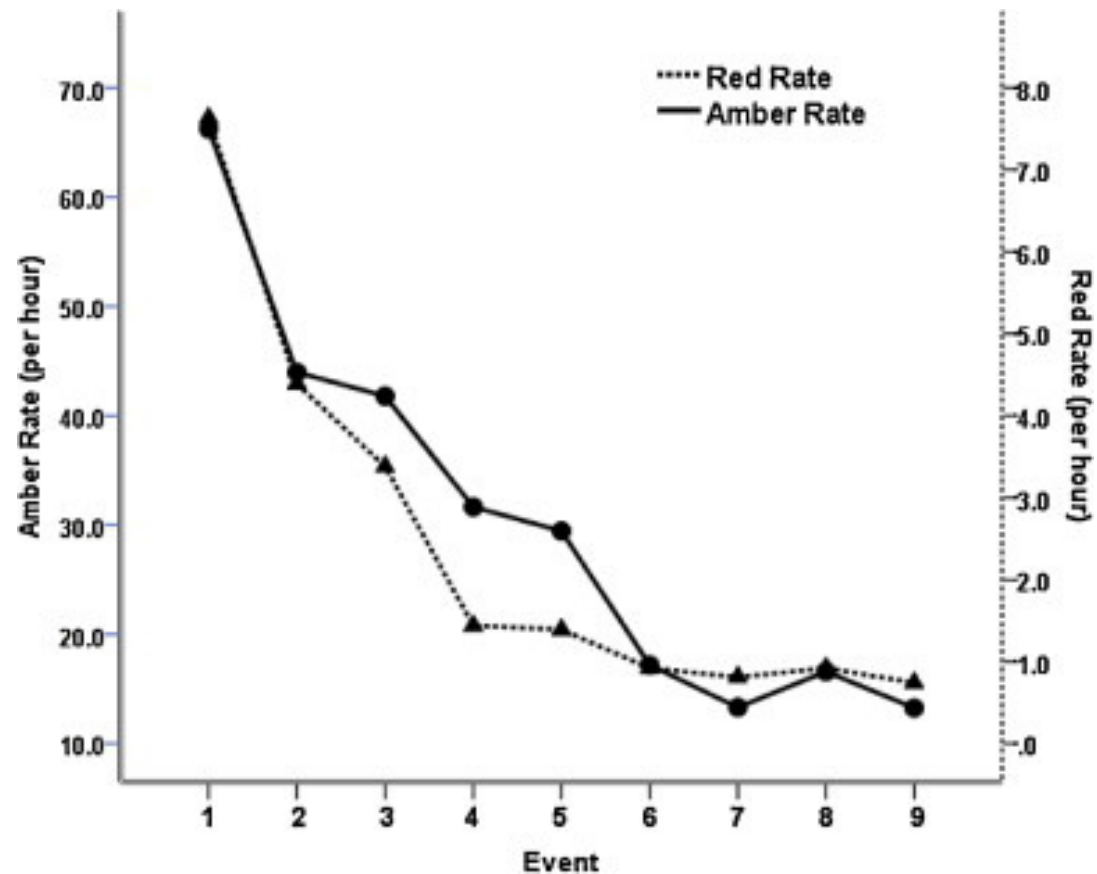- Very sceptical of authority and anyone from outside the area

Tapp, A., Pressley, A., Baugh, M., & White, P. (2013). Wheels, skills and thrills: A social marketing trial to reduce aggressive driving from young men in deprived areas. *Accident Analysis & Prevention*, *58*, 148-157.
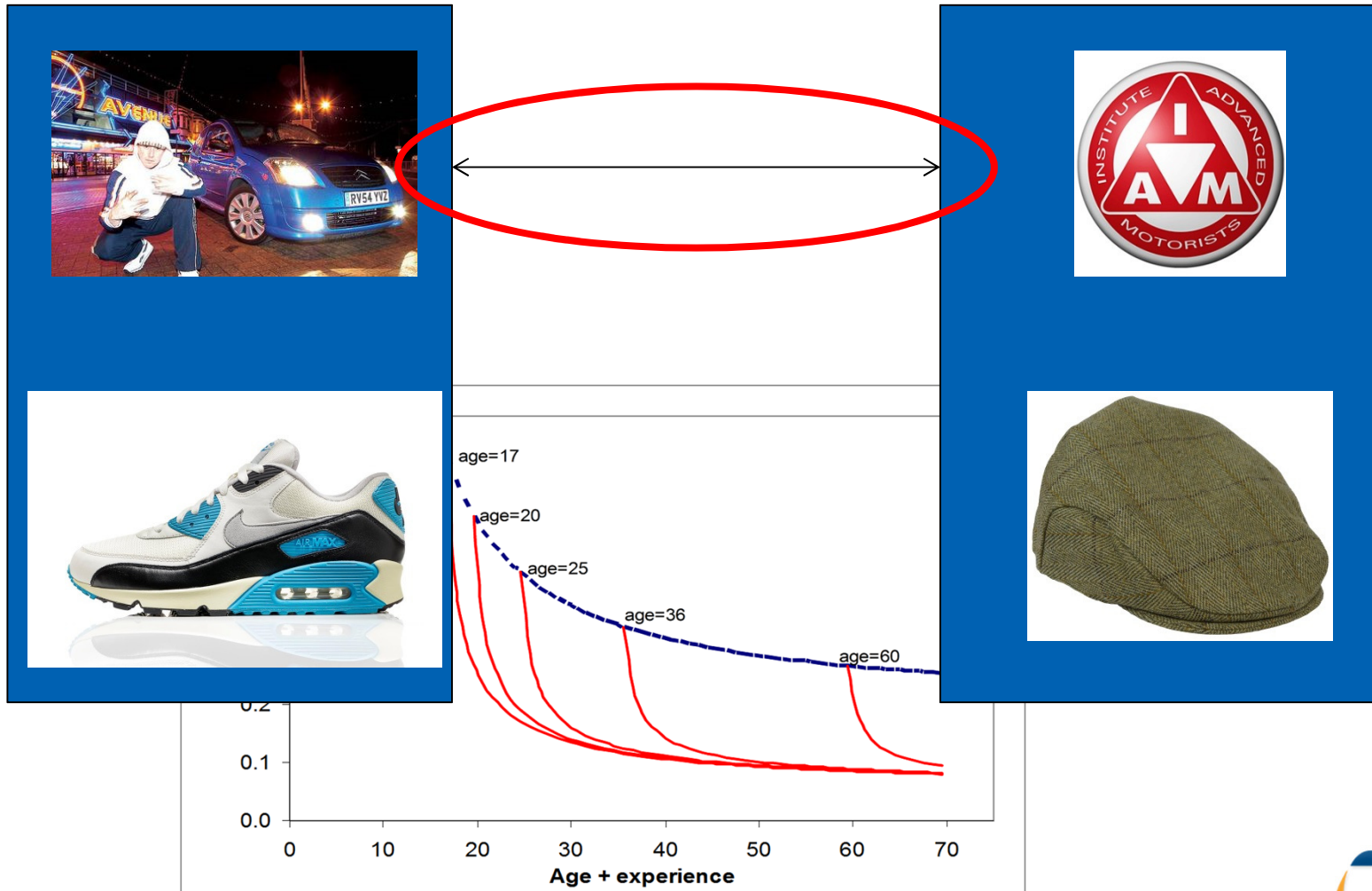
Case study – Wheels, skills and thrills
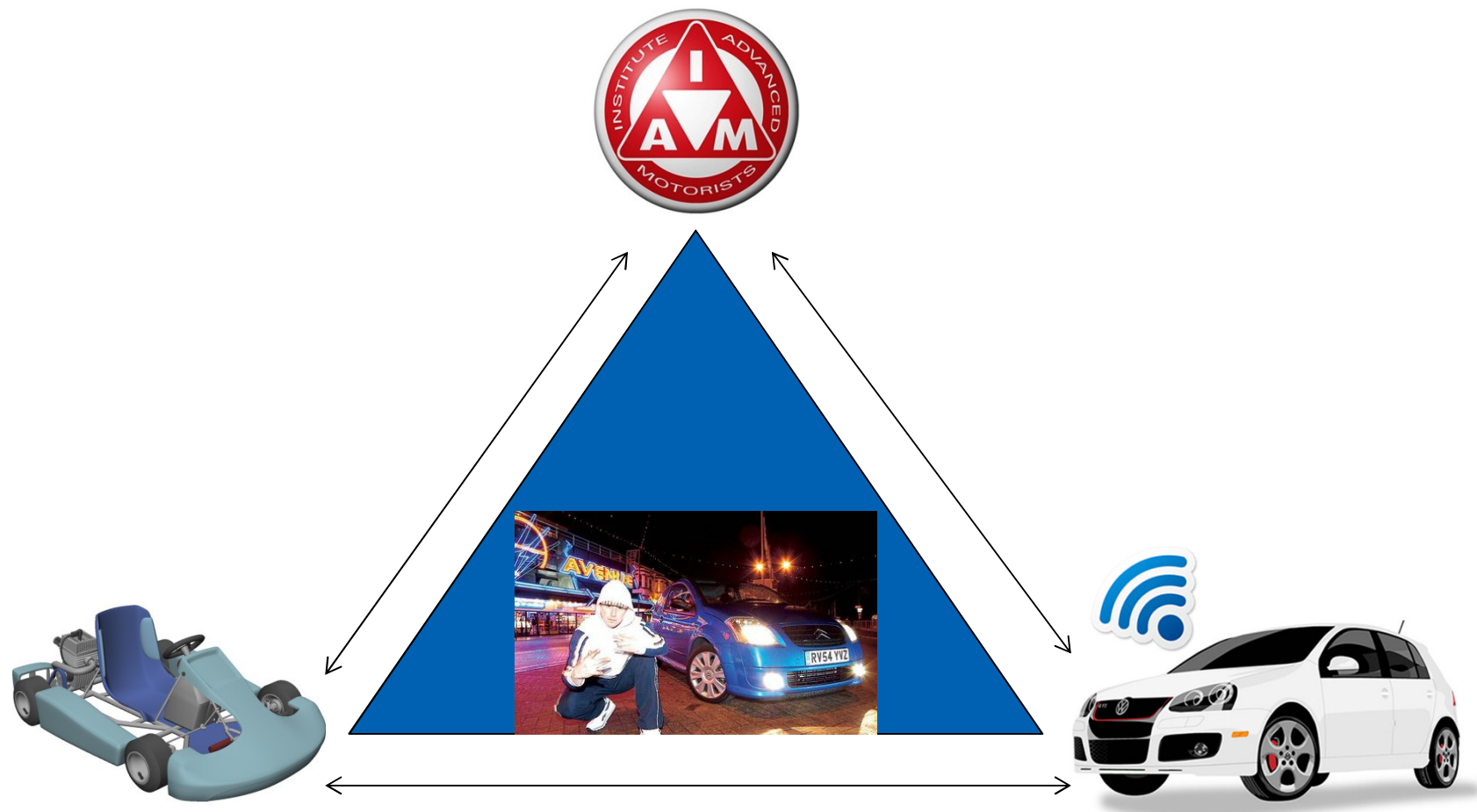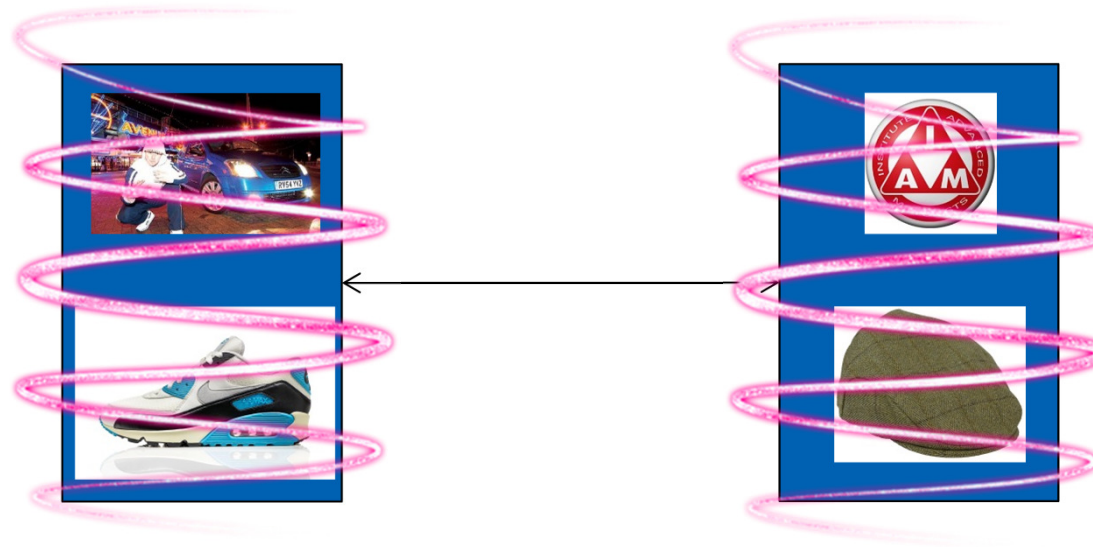
Case study – Wheels, skills and thrills

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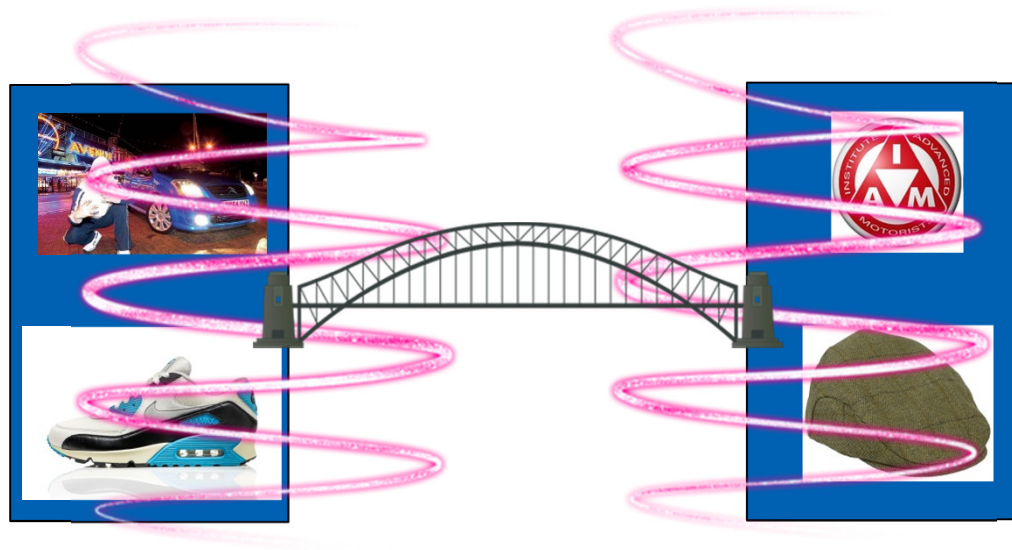
Bonding social capital

- Social networks and the norms that arise from participation

- Social networks between **homogeneous** groups of people

- Groups are made up shared meanings, behaviours, and attitudes

Bridging social capital

- Social networks between **heterogeneous** groups of people

- 'Social bridges' can be designed to change how people are influenced by others

Behaviour change techniques

ID	Behaviour Change Technique	Definition
1	Provide information on consequences of behaviour in general	Information is given about the link between the behaviour and its likely or possible consequences in the general case, and not for the individual personally. This is usually based on population-level data.
2	Provide information on consequences of behaviour to the individual	Information is given about the costs and benefits of performing or not performing the behaviour, which is tailored to the individual or to a relevant group of people. This is based on the individual's characteristics (e.g. demographic, clinical, and psychological).
3	Provide information about others' approval	Information is given about what other people think of the behaviour and whether others will approve or disapprove of any proposed change in behaviour.
4	Provide normative information about others' behaviour	Information is given about what other people are doing; i.e. an indication of whether a particular behaviour is common or uncommon amongst the population or a specified group of people.
5	Goal setting (behaviour)	The individual is encouraged to make a behavioural resolution. This does not include planning exactly how, when or where the behaviour will be performed.

Behaviour change techniques

ID	Behaviour Change Technique	Definition
6	Goal setting (outcome)	The individual is encouraged to set a general goal that can be achieved by behavioural changes but is not defined in terms of behaviour. The goal is focused on the outcome of behaviour change rather than behaviour change itself.
7	Barrier identification/problem solving	Having already formed an initial plan to change behaviour, the person is prompted to identify potential obstacles and ways of overcoming them.
8	Provide rewards contingent on successful behaviour	This involves giving praise, encouragement and/or material rewards which is explicitly linked to the achievement of the specific target behaviour. If the person does not perform the behaviour, he or she does not receive the reward.
9	Prompt generalisation of a target behaviour	Once a behaviour has been performed in a particular situation, the person is encouraged to perform it in other contexts (so that it becomes a more integrated part of the person's life).
10	Provide feedback on performance	This involves giving the person data about their own recorded behaviour, or commenting on the person's performance against set goals or in relation to the performance of other people.

Behaviour change techniques

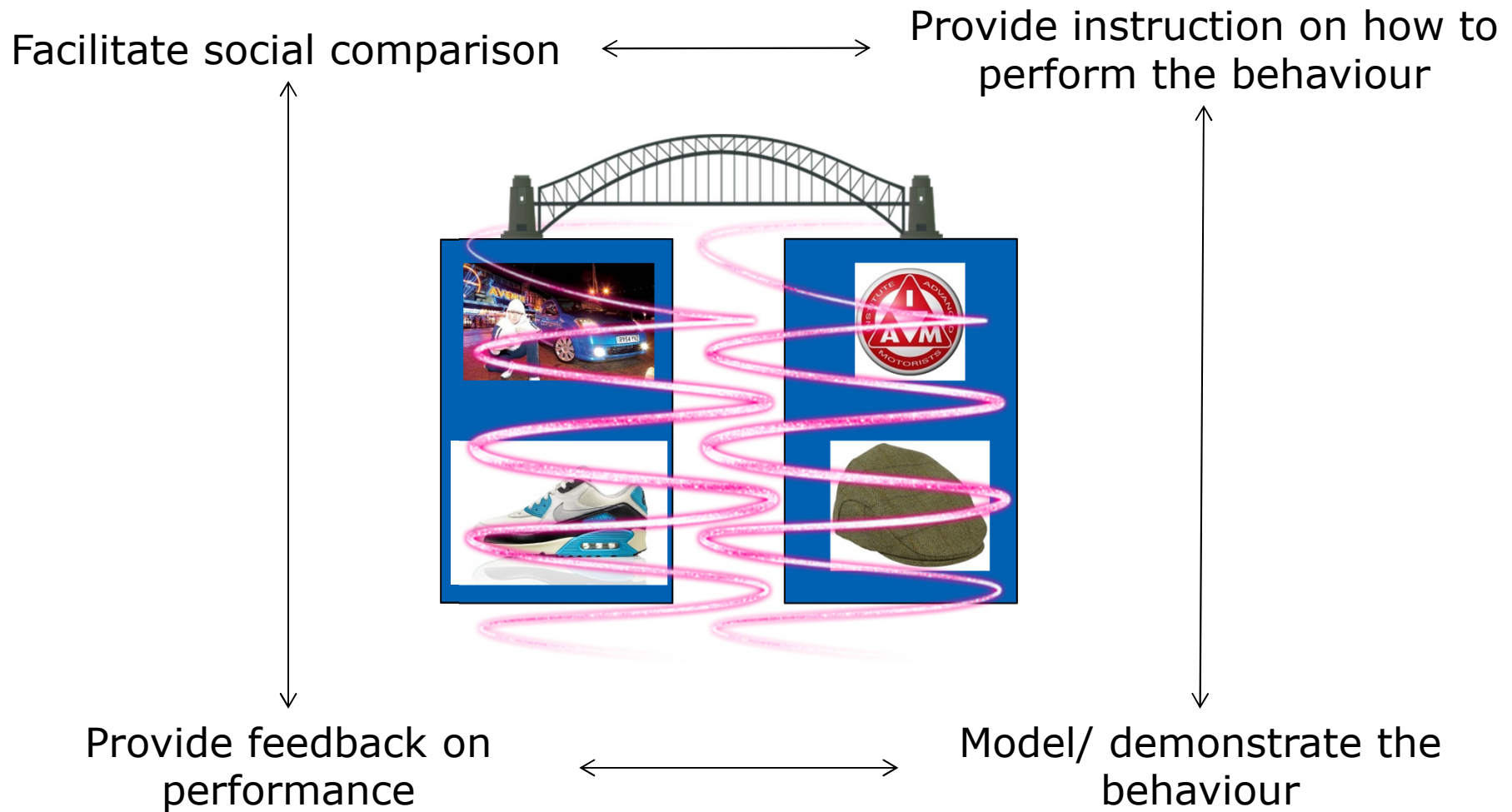| ID	Behaviour Change Technique	Definition
11	Provide instruction on how to perform the behaviour	This involves telling the person how to perform the behaviour, either verbally or in written form.
12	Model/ demonstrate the behaviour	This involves showing the person how to perform the behaviour through physical or visual demonstrations, either in person or remotely.
13	Teach to use prompt/cues	The person is taught to find cues in the environment which can be used to remind them to perform the behaviour. The cues could include times of day, particular contexts or mobile phone alerts.
14	Agree behavioural contract	A written agreement about the performance of a specific behaviour or behaviours is created, meaning that the person's commitment to performing the behaviour is witnessed by another.
15	Use of follow-up prompts	The delivery of intervention components is gradually reduced in duration, intensity and frequency over time.
16	Facilitate social comparison	This involves focusing on the performance of other people specifically to draw comparisons with the person's own performance.

Behaviour change techniques

ID	Behaviour Change Technique	Definition
17	Plan social support/social change	The person is prompted to plan how to get support from other people to help him or her achieve their target behaviour or outcome.
18	Prompt identification as role model	This involves focusing on how the person may be an example to others and affect their behaviour.
19	Prompt anticipated regret	This involves focusing on how the person will feel in future if they perform or do not perform a behaviour.
20	Prompt self-talk	The person is encouraged to talk to himself or herself (silently or aloud) before and during planned behaviours for encourage, support and maintain action.

Behaviour change techniques

ID	BCT	Definition
21	Prompt use of imagery	The person is taught to imagine successfully performing the behaviour, or to imagine finding it easy to perform the behaviour.
22	Relapse prevention/ coping planning	Involves planning how to maintain the behaviour once it has been changed, such as identifying situations in which the person may 'relapse' and then developing strategies to avoid or manage those situations.
23	Time management	This involves teaching the person to manage their time in order to make time for the behaviour.
24	Stimulate anticipation of future rewards	The person is prompted to look forward to future rewards that are not necessarily given during the intervention period. This could include telling the person at the start of the intervention that they will be rewarded based on their achievement of the behaviour.

Behaviour change techniques – applied

Facilitate social comparison $\longleftrightarrow$ Provide instruction on how to perform the behaviour

Provide feedback on performance $\longleftrightarrow$ Model/ demonstrate the behaviour

Conclusions

- We know a lot about young driver behaviour (but not as much about changing it)

- Hazard perception training appears to have the strongest evidence based on driver skill

- 'Bridging' is one avenue of promise in a WRRS environment ..

- Policies and procedures can be combined with 'softer' behaviour change techniques

- Don't be too judgemental .. we were all young once

Do You Have Any Questions?

Thank you

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