What Motorists Know and Don’t Know (about motorcyclists)
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The UK Context
- 1,732 fatalities and 22,137 serious injuries in 2015
- 365 fatalities were motorcyclists (with 5,037 serious injuries)
- 21% of deaths but only 1% of traffic!
- This increased risk is reflected across Europe (EC, 2015), America (NHTSA, 2007), Australia (Johnston, Brooks & Savage, 2008), China (Chang et al., 2016), and New Zealand (Walton, Buchanan & Murray, 2013).
- Most likely cause? Other roads fail to give way at T-junctions (ACEM, 2009; Clarke et al. 2007). See www.maids-study.eu.

Targeting other road users for intervention

Attitudes and Knowledge
- Questionnaire with 1355 responses
- Inexperienced drivers, moderate experience, highly experienced, & dual drivers
- Four factors emerged: Negative Attitudes, Empathic Attitudes, Perceptual Problems, Spatial Understanding
- Dual Drivers had better empathy and lower negative attitudes towards riders than all other car drivers
- Highly experienced car drivers also had better empathy and attitudes compared to less experienced drivers

Improving attitudes
- If dual drivers have best empathy and attitudes, we should just make all drivers ride motorcycles
- Or at least take on the perspective of a motorcyclist!

![Honda Motorcycle Trainer](image)

Motorcycle-perspective Hazard Perception clips

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<th>Simulator</th>
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<td>N = 32</td>
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<td>Post-intervention Qs</td>
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![Graph](image)
Look But Fail To See Errors

- Drivers involved in a collision tend to say they looked, but just did not see the approaching motorcycle
- Are these errors real? Or just a way for drivers to mitigate their blame?
- We have undertaken studies with still images presented very briefly, and with dynamic video of motorcycles approaching a junction that suggests they are real

But why do they occur?

High Spatial Frequencies + Low Expectations = The perfect storm for missing motorcycles

No, really, why do they occur?

Global Precedence Theory notes that viewers are usually faster to process an object as a whole (holistically) than to identify a part of an object. This appears due to the priority access of low spatial frequencies over high spatial frequencies to the visual system.

Why don’t people look for longer down the road? Because they do not expect to see a motorcycle (they represent 1% of UK traffic) so drivers are happy simply knowing whether or not a car is approaching!

Pelmanism trains processing speed

A player matches pairs of motorcycles. To do this they must pay particular attention to the details of the motorcycles (sub-category classification) which in turn improves their base-level identification (i.e. they are quicker to realise that they are looking at a motorcycle when they fixate one in the real world).

Final Conclusions

- If you want to change car driver attitudes, change their perspective
- Video might be better than simulation
- Inform drivers of legal and likely motorcycle beh.
- If you want to reduce Look But Fail To See errors, train their processing speed
- Gamification opens the way to viral training

Selected References

- [http://www.maids-study.eu](http://www.maids-study.eu)

I.e. Big fat cars are processed before narrow motorcycles. A short glance down the road may not be enough to spot a motorcycle.

So less of this…

… and more of this?

(But instead we got this!)