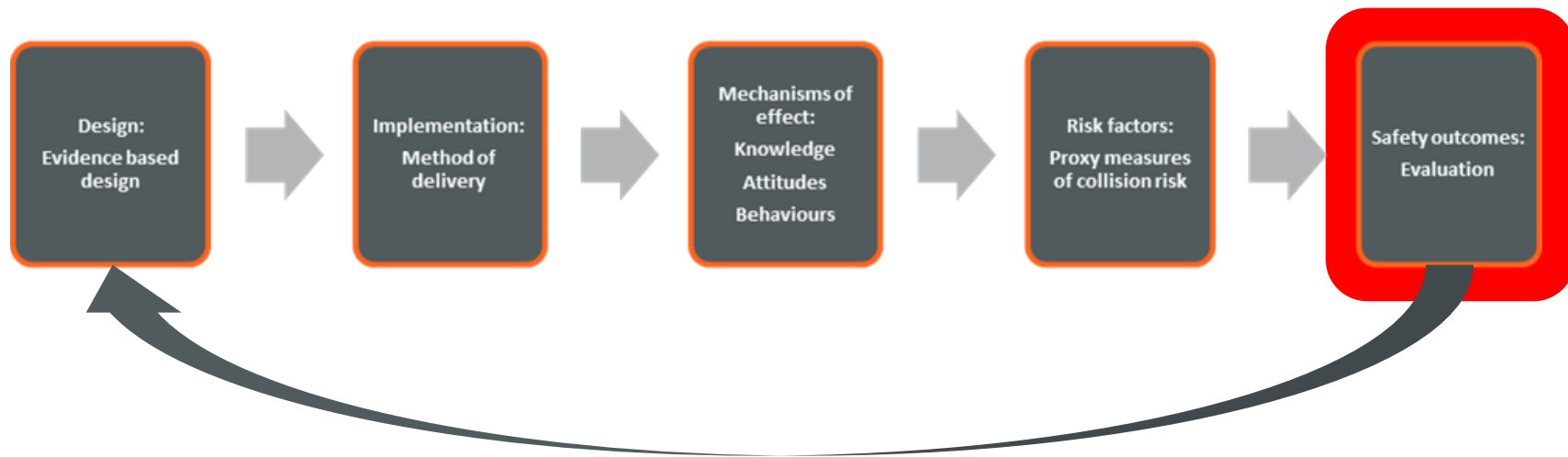




## Independent evaluation of driVR

Road Safety Scotland Annual Seminar 2019

Dr Neale Kinnear

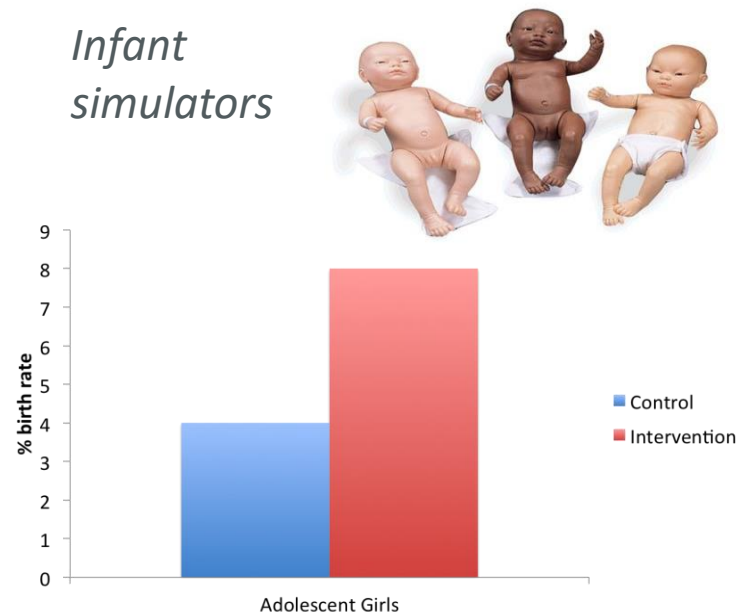


Review and assessment of  
pre-driver interventions in  
Scotland

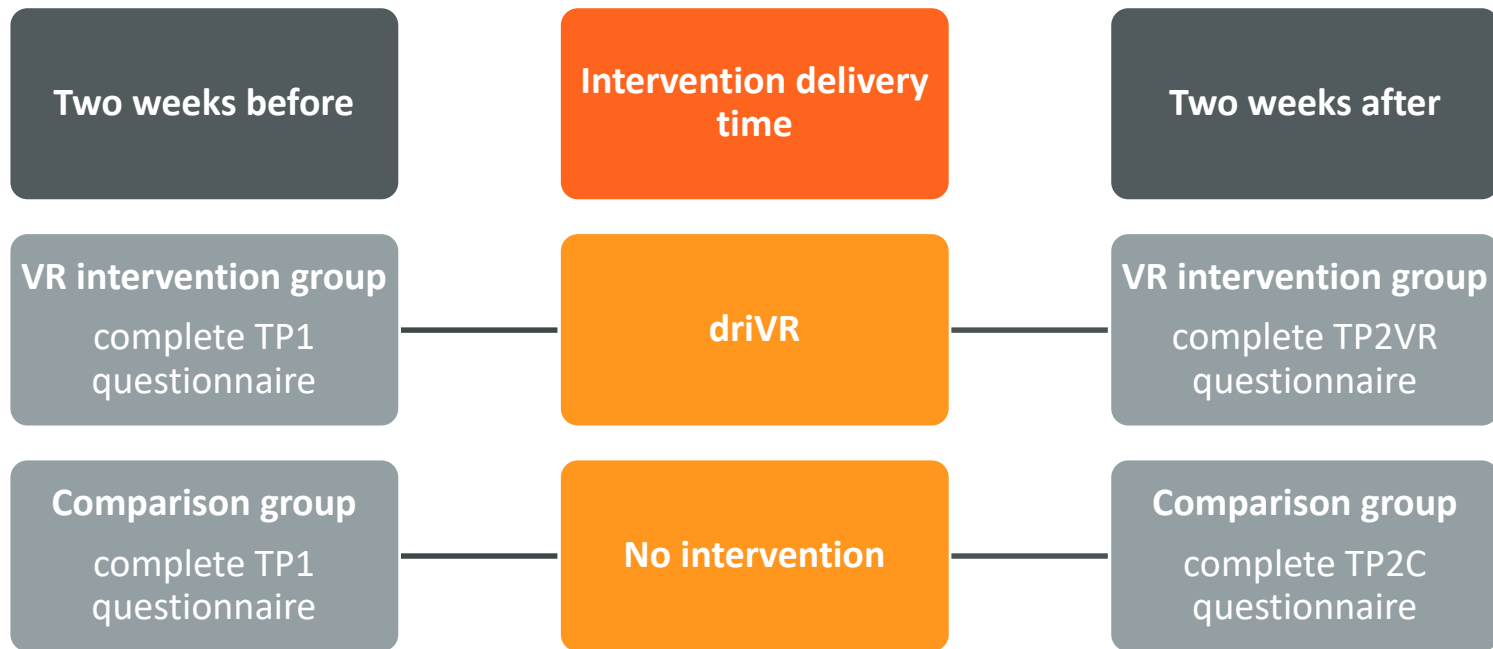
No clear evidence of a relationship between pre-driver  
interventions being delivered in Scotland (or elsewhere) and  
post-licence safety outcomes

# Why do we need to evaluate?

- Avoid doing harm
- Establish effectiveness (what works and what doesn't)
- Inform decision making
- Identify areas for improvement
- Share knowledge



Brinkman, S. A., Johnson, S. E., Codde, J. P., Hart, M. B., Straton, J. A., Mittinty, M. N., & Silburn, S. R. (2016). Efficacy of infant simulator programmes to prevent teenage pregnancy: a school-based cluster randomised controlled trial in Western Australia. *The Lancet*, 388(10057), 2264-2271.



# Approach

- Evaluation information pack
- Briefing for Road Safety Officers
- Ethics approval
- Content analysis
- Questionnaire design

Road user type	Road safety behaviours	Content
Pedestrian	Distraction	Looking at phone rather than surroundings Loud music obscuring traffic noise
	Crossing the road	Not looking when crossing Not using pedestrian crossings Crossing with view obscured
Cyclist	Helmet wearing	No helmet
	Safety clothing (conspicuity)	No high vis
	Lane changing	Changed lanes without looking Changed lanes without signalling
Driver / passenger	Seatbelts	No seatbelt
	Distraction	Not checking mirrors/blind spot Mobile phone use Passenger distraction Failure to notice signs Loud music
	Fatigue	Driver fatigue
	Speeding	Driving at speed inappropriate for conditions

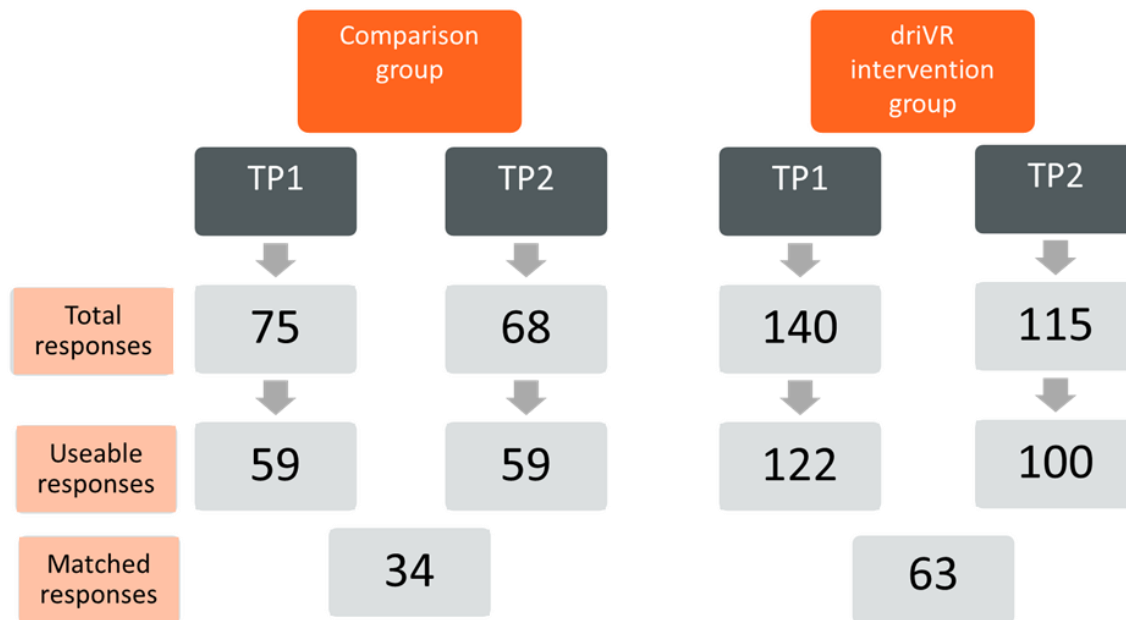
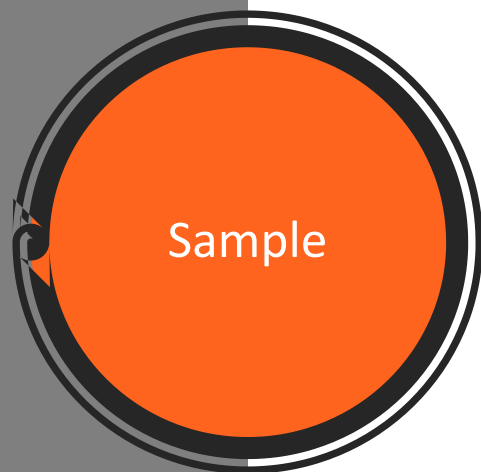
# Questionnaire design

- Four themes matched to content and stated aim

Aim	Theme	Seven question sets
To influence participants to make positive changes to their attitudes while in a vehicle or as a pedestrian or cyclist.	Self-awareness	Pedestrian Cyclist Driver / passenger - seatbelts - distraction - fatigue - speeding - peer pressure
	Empowerment to change / goal setting	
	Attitudes to targeted safety related behaviours	
	Perceived legitimacy of authority / road laws / rules	

- Multiple counterbalanced attitudinal statements using 5-point Likert scale, e.g.

Speeding	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
I am confident that as a driver I will know exactly how fast I can drive and still drive safely	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
As a passenger, I would tell the driver to slow down if I thought they were driving too fast	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Driving fast and having a bit of fun with your friends in the car is just part of being young	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would favour stricter enforcement of the speed limit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# Results

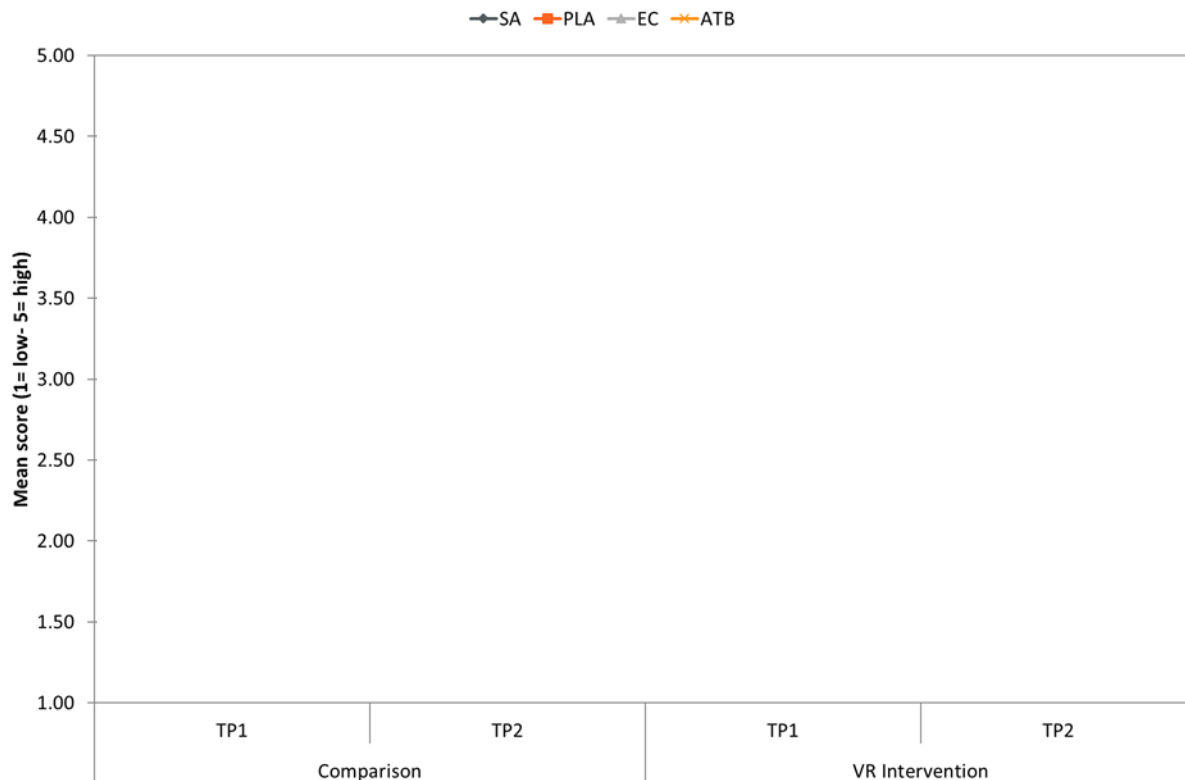
- driVR caused no harm

- Comparison group:

No statistically significant changes were found from Time Point 1 to Time Point 2 for any road user type on any theme

- driVR group:

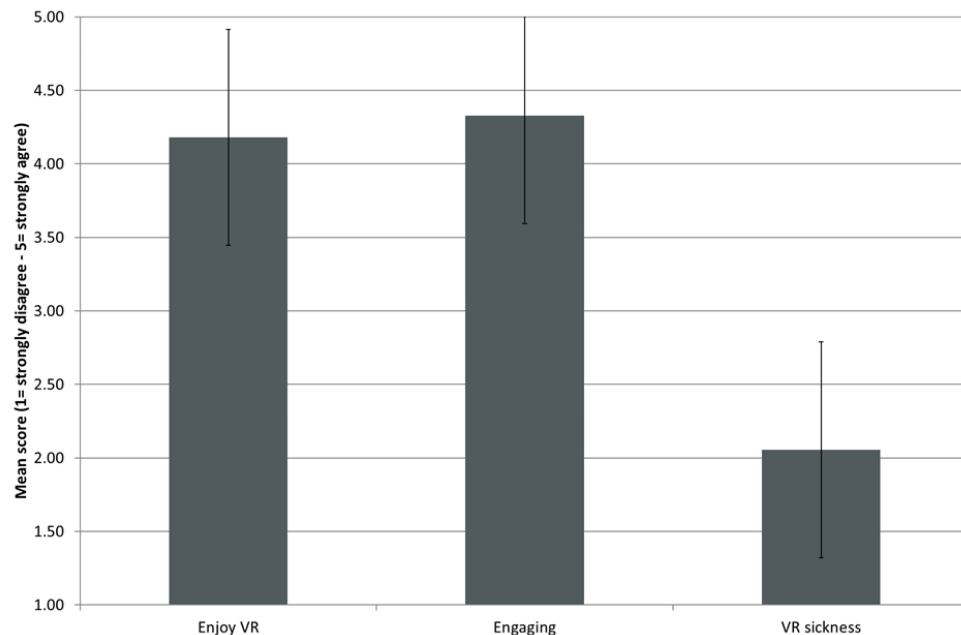
No statistically significant changes were found from Time Point 1 to Time Point 2 for any road user type on any theme





## Use of VR

- Use for VR was considered to be enjoyable and engaging by driVR participants
- Rates of VR sickness appear to be low





## Common reasons for lack of effectiveness

- Design based on 'common sense' assumptions
- No theory or behavioural science basis
- Outcomes not sufficiently defined
- Specific aims and route to effect not identified
- Opportunity and dosage (exposure to the intervention)
- No evaluation / Poor quality evaluation

# Recommendations

1. Increase dosage
2. Concentrate on fewer key road safety messages (strengthening the dose to fewer focused attitudes and behaviours)
3. Ensure consistent delivery (supported by a process evaluation)
4. Repeat outcome evaluation (with a control or comparison group) to assess the effectiveness of the redesigned resource



*"I have not failed. I've just found 10,000 ways that won't work."*

*Thomas Edison*

# Evaluation



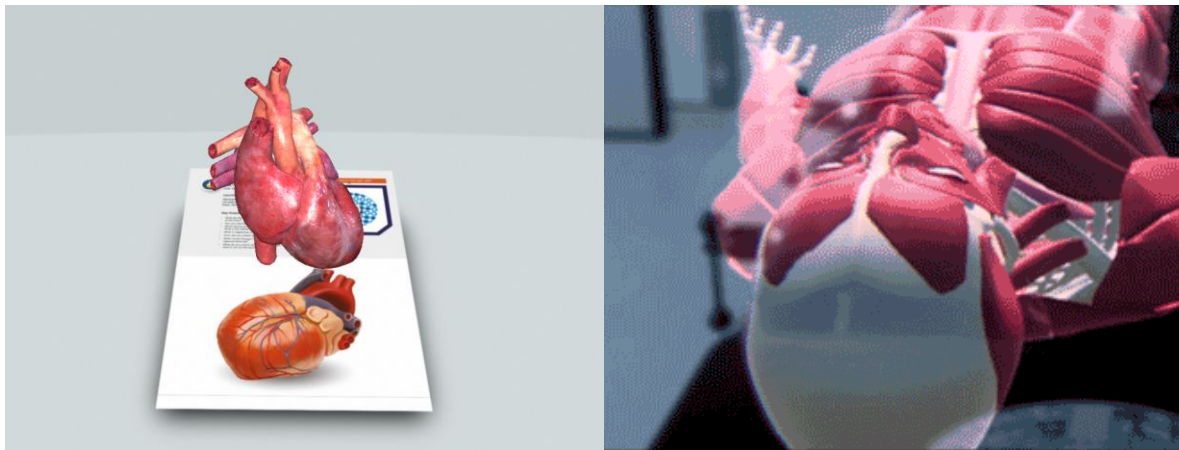
Plan time to complete surveys



Better incentive = improved returns?

# Increase the dosage!

- Rollout, in current form, to compliment existing interventions?
- Expand driVR, including possibly using augmented reality (AR)?



- Both?

Want to find out more?



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Thank you to all those who kindly contributed their time to help with this research

## Questions?

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