

Unpredictable cyclists cause changes in driver behaviour

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Introduction

9% of EU road fatalities are cyclists, 20-40% related to overtaking [1].

Lateral passing distance of vehicle while overtaking important factor for safety.

Passing distance is influenced by several factors: driver, road and cyclist related.

Cyclist behaviour can be very diverse and unpredictable which impacts driving behaviour.

Methods

Twenty participants overtaking 12 simulated cyclists on *urban* road.

Cyclists 5 and 9 swerve into middle of road just before drivers start overtaking manoeuvre.



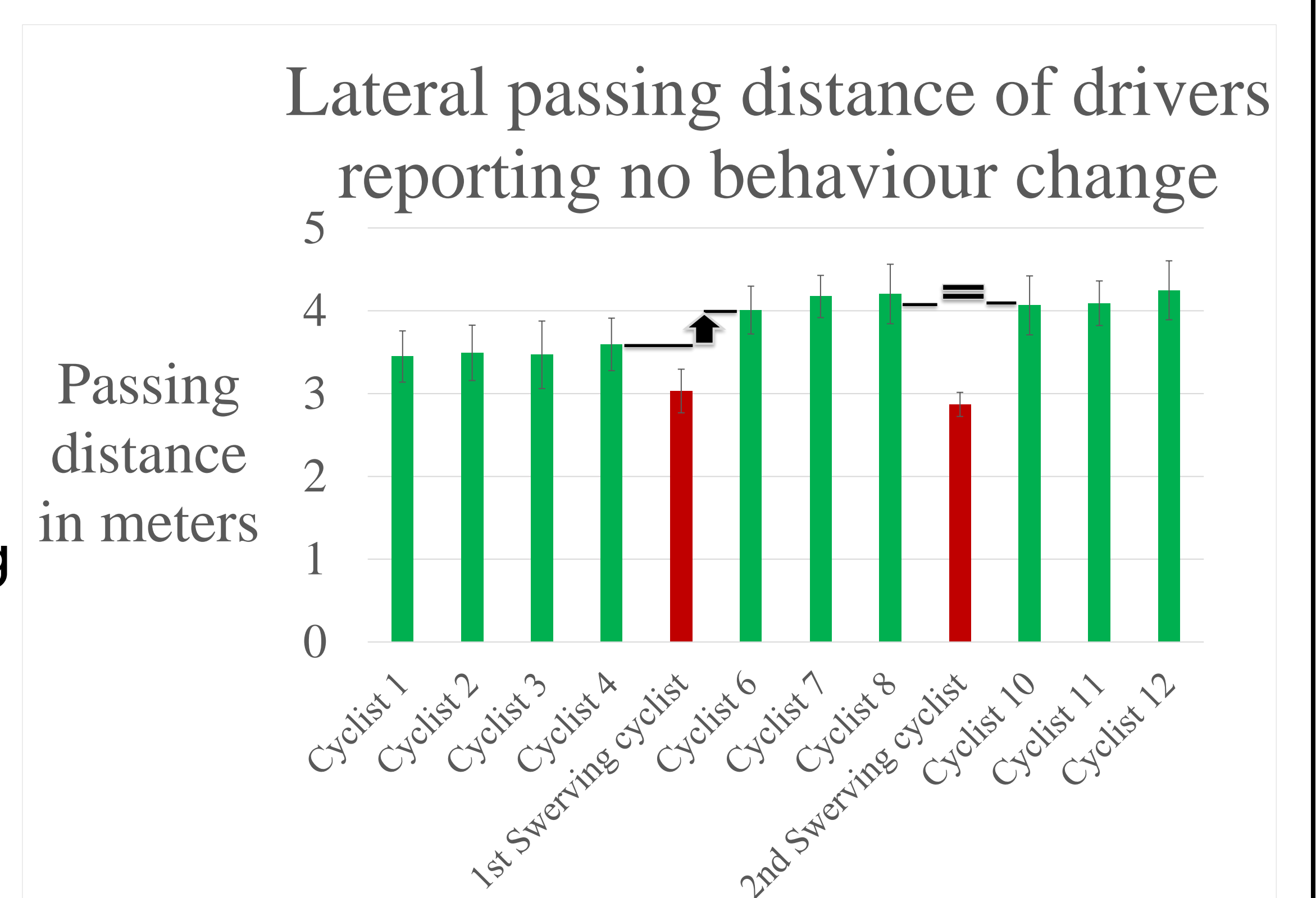
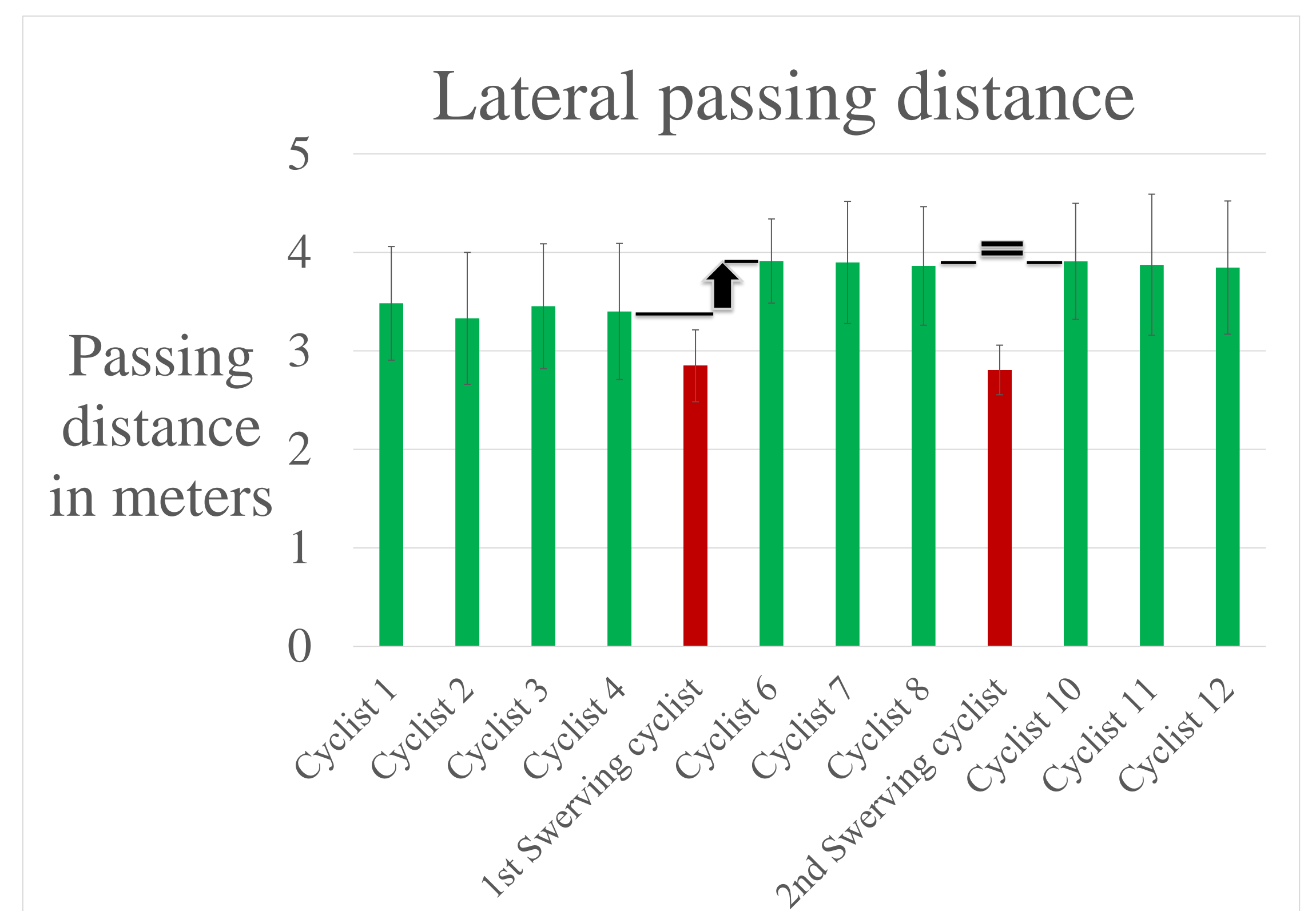
Results

Lateral distance to cyclist during overtaking increased after first swerving cyclist.

Overtaking distance remained larger after swerving cyclist.

37% drivers indicated they did not change their behaviour after encountering swerving cyclists.

But their lateral passing distance actually still increased.



Conclusions

Short term driver behaviour adaptation to cyclist behaviour.

Drivers are not necessarily aware of their behaviour adaptation.

Possible measure to study influence of infrastructure and driver factors on overtaking safety. For example critical road widths where overtaking a cyclist may lead to smaller lateral passing distances or driver distraction in urban environments.

Literature cited

[1] European Commission (2021) Facts and Figures Cyclists. European Road Safety Observatory. Brussels, European Commission, Directorate General for Transport

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