

Cyclist related road anger: which situations and factors influence cyclists road anger expression and anger directed towards cyclists?

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Background

Road anger is associated with risk-taking behaviour, increased accident involvement and discomfort among involved road users. Road anger appears to increase and so does related research. However, until now research on road anger mainly focused on drivers and driver related behaviours and situations. Yet, previous studies indicate that road anger is partly mode specific. With increasing efforts to promote cycling, knowledge on cycling related road anger gets increasingly important.

Aim

The purpose of the study is to explore cyclist related road anger expression. The study focuses on self-reported anger expression among cyclists, road anger triggering cyclist behaviours and behaviours of other road user types triggering road anger in cyclists. Moreover, we aim to examine what role factors like age, gender, use of other modes, cycling frequency and perceived stress play for cyclists' road anger and road anger directed towards cyclist.

Method

We collected data by an online survey among 2000 Danish inhabitants of which 66% were both drivers and cyclists ("multimodal"), 19% were non-cycling drivers ("drivers") and 15% were non-driving cyclist ("cyclists"). We measured anger expression among cyclists and multimodals by the cycling anger expression inventory (CAX), including the sub-scales verbal aggressive expression, physical aggressive expression, and constructive expression. We identified anger triggering cyclist behaviours and behaviours of drivers and pedestrians triggering anger among cyclists from open-ended questions. For the analysis, we first applied directed content analysis and second descriptive statistics for frequency assessment and differences between sub groups with regard to the identified categories of anger triggering behaviours.

Results

When comparing cyclists' and multimodals' anger expression as cyclists based on the CAX, we found no differences in verbal and physical expression. However, multimodals scored higher on constructive expression than non-driving cyclists. With regard to cyclist behaviours triggering anger in other road users, "reckless cyclist behaviour" was highlighted by the largest share of participants, followed by inattention, riding in the wrong place and other road traffic violations. High-anger cyclists (CAX) got angrier about drivers' reckless behaviours than low-anger cyclists. Cyclists as compared to multimodals got more often angry with drivers running a red light and pedestrians walking on the cycling path than multimodals. Preliminary results of additional analyses indicate that age, gender, perceived stress while cycling and exposure is related to anger expression as well as to anger triggering behaviours.

Conclusion

Reckless behaviours trigger more anger among cyclist but also make other road users more angry about cyclists than error related behaviours. This indicates that road users' interpretation of the underlying intention is of key importance for cyclist related road anger. Furthermore, multimodals get less angry about behaviours potentially interfering with cycling flow, than non-driving cyclists do. This indicates that multimodals' interpretation of the underlying intention is different, possibly due to an ability to understand the situation from the perspective of different road users. Multimodals' higher scores in constructive expression support this.