

Factors Associated with Cyclists Using a Bell or Calling Out When Overtaking Pedestrians

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Abstract

Authorities recommend that cyclists issue an auditory warning when overtaking pedestrians to reduce the risk of collision on shared infrastructure, however, little research has examined this behaviour. An online survey of Queensland cyclists investigated factors influencing the frequency of warning behaviours. Results suggest that demographic and cycle use characteristics may not play a large role, but that perceptions of what other cyclists do and expect of them, and expectations that issuing a warning will reduce the risk of a collision with a pedestrian, may be more important. These findings may inform intervention campaigns to encourage safer use of shared infrastructure.

Background

Cycling and walking have been identified as activities that can reduce the rate of obesity in the community. However, the availability of safe routes is a factor affecting the willingness and ability of individuals to engage in these activities (Fraser & Lock, 2011).

Separating cyclists and pedestrians from motor vehicle traffic has improved the level safety for these vulnerable road users, especially for cyclists. In Australasia, the guidelines state that ‘off-road bicycle facilities typically take the form of shared pathways for use by both cyclists and pedestrians’ (Austroads, 2017) However, mixing cyclists and pedestrians exposes both to the risk of a collision (Taverner Research, 2010). While rare, these collisions can result in serious injuries to both parties (Chong, Poulos, Olivier, Watson, & Grzebieta, 2010).

Shared infrastructure is a relatively unregulated environment, but it has important implications for user safety. In Australia, many authorities recommend that cyclists should give pedestrians an auditory warning when overtaking them, either by calling out or using a bell or horn. The aim of the current research was to investigate cyclist factors that may be associated with how often they warn pedestrians when passing.

Method

Members of Bicycle Queensland completed an anonymous online questionnaire that asked about their cycling experiences, the frequency and nature of auditory warnings they provide when overtaking pedestrians and information on normative warning behaviours. The 275 eligible participants were 18 years and older, had ridden on a shared path or footpath in Queensland in the previous 12 months, and had a bell fitted to their bicycle.

Logistic regression analyses were undertaken to investigate how these characteristics of the cyclists may be associated with the reported auditory warning behaviours.

Results

The results of the logistic regression analyses suggest that bicycle usage patterns and demographics, were generally not associated with the frequency of auditory warnings by using a bell or calling out. The exceptions were that female cyclists were more likely to call out a warning than males and cyclists riding to complete errands were less likely to warn pedestrians using a bell. Those who rode

for recreation or exercise were less likely to call out a warning. Cyclists were also more likely to warn pedestrians if they perceived a higher prevalence of warnings to pedestrians by other cyclists (descriptive norms) and if giving a warning was the type of behaviour that they believe is expected of them by other cyclists (injunctive norms). The frequency of bell warnings was also higher if they expected that they would benefit by being less likely to be involved in a collision with a pedestrian.

Conclusions

The results suggest that interventions for improving safety on shared infrastructure should seek to strengthen cyclists' perceptions that other cyclists provide warnings and expect them to do so, and strengthen their belief that issuing a warning will reduce the risk of a collision with a pedestrian, and will benefit all cyclists. These interventions should not be focussed solely on cyclists, but, should also involve pedestrians so that both user groups are more aware of how they contribute to their safety when using shared infrastructure.

References

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