

Road Crossing Behaviour among Elderly Pedestrians in Real world

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ABSTRACT

Elderly pedestrians (65+) are more likely to get involved in road crashes with the highest number of fatalities or injured persons. Physical and cognitive impairments among elderly pedestrians as well as their impaired multi-tasking ability, significantly affect their road crossing behaviour, which could lead to deleterious consequences.

This study examined elderly pedestrians' awareness of their road crossing behavior and their actual behavior, at different hours at two mid-block zebra crossing points of a non-signalized, bi-directional road (n=478, age range was 55-75 years old). Data were collected over a period of two months by three observers who stood on both sides of the road and manually coded the pedestrian's crossing behaviour and by using a GO-PRO-4 camera, which was placed in a hidden spot in front of the crossing area. After crossing the road, the pedestrian was asked to fill a short survey regarding his perceived crossing behaviour. A logistic regression within the Generalized Linear Mixed Models framework was utilized to analyse the data.

The correlation between the actual behaviour and participants' perceptions was positive and significant, suggesting they were aware of their road crossing behaviour. Furthermore, elderly pedestrians (70+) who experienced falling sometimes in the past, have looked down more often during crossing and were more likely to stop on the sidewalk before crossing compared to all other age groups. Unexpectedly, pedestrians who crossed while using their mobile, frequently made an eye contact with the incoming traffic. The results of this study are discussed with respect to the literature of elderly pedestrians.

Keywords: elderly pedestrian, hazard awareness, road scanning, eye contact, fear of falling (FOF).