

Towards understanding hazard perception abilities among child-pedestrians

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Abstract

The present study aimed to address child and adult pedestrians' perception of hazards through a traffic-scene categorization task. Twenty young-children (6-8 years-old), twenty-two older-children (9-12 years-old) and twenty-one adults (24-28 years-old) were requested to observe 12 traffic-scene still photos taken from a pedestrian's perspective and to categorize them according to similarities in their hazardousness. Results have shown that experienced adult pedestrians tended to be more aware of potential hazards (i.e., obscured field of view (FOV) from where a hazard instigator might appear) than both younger and older child-pedestrians. Consistent with expectations, child pedestrians categorized the photos on the basis of a single criterion (e.g., a hazard instigator such as the presence of a vehicle) while adult pedestrians established a categorization criterion based on a combination of aspects derived from the traffic environment (e.g., hazard instigator and traffic environment). The present study used an innovative paradigm to investigate child pedestrians' conceptions regarding road crossing situations. Understanding child-pedestrians shortcomings in accurately assessing the traffic situation may help in creating intervention techniques which may increase child-pedestrians' awareness to potential and hidden hazards and help in reducing their over-involvement in traffic crashes. Conclusions and implication for further studies are discussed.

Introduction

Pedestrian road crashes pose one of the most serious threats to contemporary life. They are amongst the most substantial causes of death, injury and long-term disability among children, particularly among those in the age range of 5-to 9-years (e.g., Whitebread & Neilson, 2000; Tabibi & Pfeffer, 2003), who endure four times the injury rate of adults, in spite of their lower levels of exposure to traffic (Thomson et al., 2005). Negotiating traffic requires a variety of cognitive and perceptual skills (e.g., Tabibi & Pfeffer, 2003; Te Velde, Van der Kamp & Savelsbergh, 2003; Thomson, Tolmie, Foot, & McLaren, 1996). When a pedestrian's skills are not properly developed, his or her road-related decisions will probably be inadequate (Thomson et al. 1996). Indeed, young children are more involved in traffic crashes, hence leading to the conclusion that they are less competent in traffic than adults (e.g., Tabibi & Pfeffer, 2003; Hill, Lewis & Dunbar, 2000). One might have thought that prohibiting children's crossing the road alone

In D. de Waard, N. Merat, A.H. Jamson, Y. Barnard, and O.M.J. Carsten (Eds.) (2012). *Human Factors of Systems and Technology* (pp. 277 - 289). Maastricht, the Netherlands: Shaker Publishing.