

## THE ROLE OF ATTENTION IN THE DEVELOPMENT OF PEDESTRIAN SKILLS: DECIDING WHEN TO CROSS A ROAD IN A SIMULATED PEDESTRIAN TASK

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### 1 Introduction

Childhood accidents are the single largest cause of death and injury to children between the ages 5- to 14-yrs in Britain and Western Europe (Towner, Jarvis, Walsh, & Aynsley-Green, 1994). The high rate of mortality and morbidity caused by accidents among children makes it an important problem for child health (Thomson, 1996a). Approximately two-thirds of fatal accidents to British children between the ages of 5- to 14-yrs are road accidents. The rate of road accidents rises from 3 years old and peaks at 12 years, with 5- to 9-y-olds suffering four times as many accidents as adults despite their lower rate of exposure (Thomson, 1996a). Such age trends in accident statistics have been explained from a developmental perspective by several authors (e.g., Sandels, 1975; Ampofo-Boateng, Thomson, Grieve, Pitcairn, Lee & Demetre, 1993). The development of perceptual and cognitive abilities have been the focus of much recent research, particularly with respect to road safety (e.g., Barnecutt & Pfeffer, 1998; Whitebread & Neilson, 2000).

Road crossing is a complex behaviour requiring perceptual, cognitive and motor abilities (Thomson, 1996b). An important cognitive development underlying perception of danger and avoidance of accidents involves attention. Several investigators have reported that children's accidents may be caused by inattentiveness and impulsiveness (Sandels, 1970) and distraction by irrelevant aspects of the environment (Vinje, 1981). Sex differences in accident rates have also been related to attention (Van der Molen, 1981). However, the role of attention in children's awareness of danger and the deployment of appropriate perceptual strategies has not been thoroughly investigated.

Among the relatively few researchers investigating the role of attention in the implementation of road-crossing strategies, Gunther and Limburg (1976 cited in Vinje, 1981) suggested that children are more easily distracted by irrelevant information around the traffic environment (such as animals, ice-creams vans, etc.) and so miss safe opportunities to cross the road. In their

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