

Choosing a safe place to cross the road: the relationship between attention and identification of safe and dangerous road-crossing sites

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Abstract

Background Safe pedestrian behaviour relies on cognitive skills, including the ability to focus attention on the traffic environment and ignore irrelevant stimuli. An important pedestrian skill that young children find difficult is the ability to find a safe place to cross the road. The aim of this study was to examine the relationship between attention and children's ability to identify safe and dangerous road-crossing sites.

Methods Participants were 95 children (aged 6.5 years, 8.6 years and 10.4 years) and 33 adults. Ability to identify safe and dangerous road-crossing sites was assessed using computer presentations of five safe and five dangerous sites. Attention was assessed using the Stroop test for resistance to interference. Correlations were calculated between Stroop test measures and pedestrian task measures (accuracy and speed of identifying safe and dangerous road-crossing sites) for each age group separately.

Results The ability to identify safe and dangerous road-crossing sites and the ability to resist interference increased with age. Significant correlations were observed between identification of safe and dangerous road-crossing sites and performance on the Stroop test for children but not for adults.

Discussion The results indicated that attention is required for identifying road-crossing sites quickly and accurately, especially for younger children. Road safety training programmes for children may need to take into account the development of children's attention.

Keywords

pedestrian, child safety, attentional development, Stroop test

Introduction

One of the most important causes of death, injury and long-term disability among children is accidents. Road accidents form two-thirds of fatal accidents to children aged 5–14 years, the rate of road accidents rising from 3 years of age and peaking at age 12 years. In the UK in 1997, 3424 children aged

5–7 years and 6312 children aged 12–15 years were killed or injured (DETR 1999). The proportion of accidents among children is much higher than that among adults considering that children are not exposed to traffic as much as adults (Routledge *et al.* 1974). Even when exposure rate is taken into account, the number of road accidents affecting 5- to 9-year-olds is four times higher than that of

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