

# **HAZARD PERCEPTION SKILLS OF AUTISTIC AND NON-AUTISTIC CHILDREN IN JAKARTA: COMPARISON OF THEIR TEST PERFORMANCE AND THEIR PARENTS' SUBJECTIVE EVALUATION**

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## *TOPIC AREA:*

- Social Cognition and Social Behavior
- Diagnostic, Behavioral & Intellectual Assessment
- International and Cross-cultural Perspectives

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## **Background**

Children in Indonesia are vulnerable to road injuries and fatalities. Data from previous studies showed that children between 0 – 14 years old made up for almost 1/3 of all traffic fatalities in Indonesia. Within this group, children between 10-14 years old were the most represented percentage-wise. A possible reason for this overrepresentation may be children's deficiency in hazard perception (HP) skills. Previous studies suggested that these deficiencies may be more present among autistic children, making them even more vulnerable to road injuries and fatalities. Generally, parents play an essential role in educating their children about safe travel behaviors. They determine how much supervision is needed for their child throughout the developmental process of their HP skills. Since a more negative view of a child's HP skills can limit the development of HP skills (i.e., by limiting their learning opportunities), the accuracy of parents' perception of their children's skills is important. This can be even more limiting for autistic children as they generally experience more problems with HP skills.

## **Objectives**

The objective of the current study was twofold: (1) compare the hazard perception skills of autistic and non-autistic children in Jakarta, Indonesia, and (2) investigate the autistic parents' perception of their child's HP skills and examine if there is a potential relationship between their perception and their child's performance.

## **Method**

Data was collected through online questionnaires. Children were presented with photos of traffic situations in Jakarta on which they had to indicate if and where a hazardous situation could occur. Hazards were divided into four categories: behavioral prediction (BP), environmental prediction, dividing and focusing attention (DF), and no hazards. Parents were asked for their opinions on their child's HP skills and predicted their child's test performance.

## **Results**

Twenty male autistic children (ages: 10 – 15) and their mothers participated, together with 34 male non-autistic children (ages: 10 -14). Analyses showed that autistic children significantly identified fewer BP, EP, and DF hazards. They also responded slower to all types of hazards compared to the non-autistic children. No differences were found for the photos where no hazard was present. Parents could accurately predict their children's total number of correct answers on the test. However, they tended to overestimate their children's reaction time. Further analyses showed that parents whose children could identify fewer hazards and react slower tended to overestimate their children's HP skills. Interestingly, the more days a week children walked around in their neighborhood, the more accurate their parents' prediction was.

## **Conclusion**

The current study offered valuable insights into the HP skills of autistic children. Results showed that autistic children significantly performed worse on the HP test, and their parents tended to overestimate their reaction time. Moreover, children with more exposure to hazards scored better on the test, indicating that increased exposure in a safe environment positively affected their HP skills. Future research could focus on the factors that may influence the HP skills of autistic children and/or could include females, other age groups, or children from different countries.

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