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Appropriateness of Road Safety Education for Children with DCD

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Background

Traditionally, educational interventions have included both allocentric and egocentric approaches, specifically: Tufty the road safety RoSPA squirrel (allocentric); Tales of the Road (allocentric) and Kerbcraft (egocentric). The aim of this study was to investigate whether current pedagogical approaches to teaching road safety in primary and secondary schools successfully up skill children with DCD.

Method

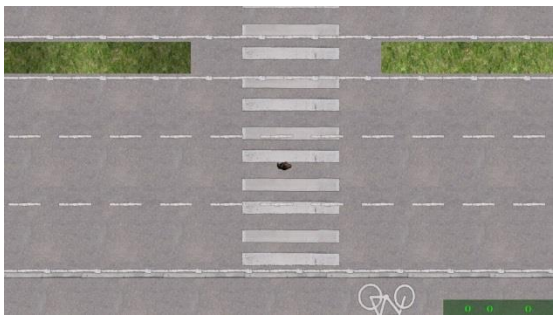

Figure 1: Screen shot from allocentric condition

Figure 2: Screen shot from egocentric condition

Children (101 typically developing, 34 At Risk of DCD and 23 DCD) were presented with a series of computer based virtual reality road crossing scenarios, from both an allocentric (Figure 1) and egocentric (Figure 2) perspective.

The children were asked to navigate either an avatar (top-down perspective; allocentric condition) or 'themselves' (first-person perspective; egocentric condition) across a road by identifying the safest crossing route.

Deviation from the pavement/zebra crossing was measured (RMSE), as was time to complete safe crossings. In addition, children were asked about their road crossing experiences and whether they had received any road safety education at school.

Results and Discussion

Overall, there were no main effects between groups [TD, At Risk, DCD] or between age groups [6-7, 8-9, 10-11 and 11-12 years]. Males with DCD were significantly quicker and more accurate in the egocentric condition than the allocentric condition, unlike their TD or At Risk peers. However, females with DCD performed comparably to male TD and At Risk peers but were significantly poorer in the egocentric condition compared to their female TD and At Risk peers (Figure 3). These results cannot be explained by differences in road crossing exposure or education received. This suggests that males and females with DCD may require different methods of teaching.

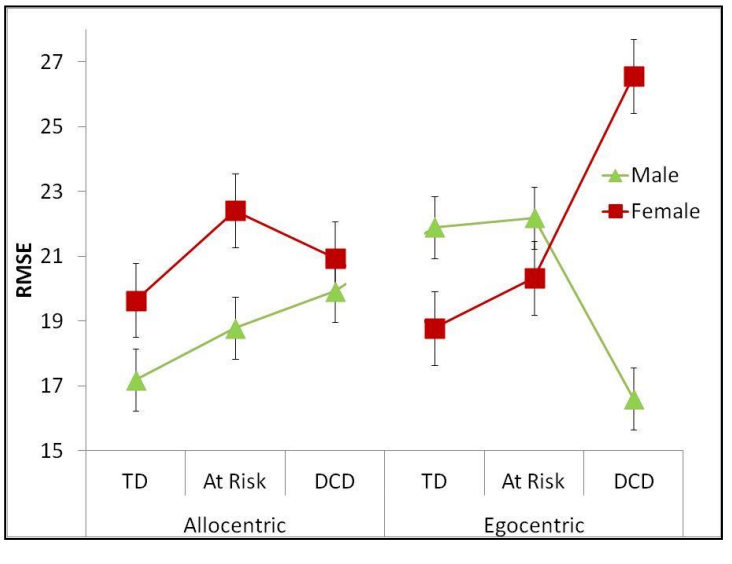

Figure 3. RMSE by gender and condition