Eyetracking measures of performance on the Traveling Salesperson Problem

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Abstract

Human solutions to the Traveling Salesperson Problem (TSP) have been proposed to employ heuristics integrating global and local spatial information (Pizlo et al., 2006). Because different neuroanatomical regions may be involved in local vs. global processing, as well as attentional shift between levels, performance on the TSP may provide useful insight into changes that occur in the brain as a result of age or of neurodegenerative disorders (Slavin, 2002). In a previous study, we compared the performance of healthy adults in conditions that varied the availability of global cues. Surprisingly, our results indicated excellent performance on configurations requiring global information, even in conditions that masked these cues. The current study uses eyetracking to examine target fixations during the TSP. The question was whether participants compensate for the presence of distractor cues by constructing a mental outline of the configuration before selecting a route.

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