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Evaluating traffic scenes while performing motor tasks

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Abstract: Driving is a complex task that requires doing different subtasks simultaneously. The possible interference between two of these subtasks is analysed: a) to judge manoeuvres regulated by traffic signs that can be made by a vehicle at an intersection (in the shape of a T-junction) and b) to perform a motor task. In addition, we test the possible effect of the spatial component of the motor task on the judgment task.

Interpreting traffic signs requires comprehension and inference. In previous studies, the evaluation of these processes allowed us to predict and prove differences in a judgment task with prohibitory and obligatory signs (Tornay, Castro & Moreno-Ríos, in press). When the task showed simple situations, obligatory and prohibitory signs were easily judged for allowed and not allowed manoeuvres, respectively. The advantage of these conditions over the rest was explained by the fact that these were the only conditions not requiring spatial inferences.

In this study, this explanation is tested by adding two kinds of concurrent motor task: with a spatial component and with a non-spatial one. More specifically, we predict an increase of interference in the judgement task when the concurrent motor task has a spatial component than when it has not. Results from the proposed hypothesis are discussed.