0977 AN ANALYSIS OF SAFE DRIVING USING CONCURRENT TASKS: EFFECTS OF MAKING DECISIONS FROM THE TRAFFIC SIGN INFORMATION AND PERFORMING VERBAL VERSUS SPATIAL-IMAGERY TASKS

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Driving requires performing different subtasks concurrently that can interfere. Specifically, two driving sub-tasks are analysed in this work: Participants judge manoeuvres regulated by traffic signs (turn left or turn right mandatory and prohibitory signs) that can be made by a vehicle at an intersection (a T-junction). Every traffic sign conveys a single proposition about traffic conditions. Drivers must integrate this proposition with their own goals and other known facts to decide on an appropriate action in what amounts to a deduction task. This study analyses how people decide whether a situation is allowed or not, taking into account the information provided by one sign – mandatory or prohibitory signs. Results showed that people integrate two obligatory sign messages – informing where one can go – more easily than two prohibitory sign messages – informing where not to go. Therefore, it could be said that each traffic sign elicits an internal mental model elaboration in which forbidden actions are explicitly labelled by means of attached ''mental footnotes" indicating the epistemic status of "prohibitory information." In addition, the participants performed two types of mental tasks, one verbal and the other involving spatial-imagery. Given the visual and spatial character of information acquisition while driving, and the role that spatial codes play on the generation of 'mental footnotes' we expected task behaviour to be more disrupted by performing concurrent tasks that require visual imagery or spatial resources than by performing verbal tasks. Results from the proposed hypothesis are discussed and conclusions for safety driving are made.