Perceptual Load Induces Inattentional Blindness in Drivers

Abstract

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Perceptual load theory states that the level of perceptual load in a task predicts the processing of task-irrelevant information. High perceptual load has been shown to result in increased inattentional blindness; however, there is little evidence that this extends beyond artificial computer-based tasks to real-world behavior. In this study, we adapted a typical load-blindness paradigm for use in a driving simulator. Forty-two drivers performed a series of gap perception tasks where they judged if their vehicle could fit between two parked vehicles, with the task imposing either low or high perceptual load. Awareness for an unexpected pedestrian or animal at the side of the road was found to be significantly lower in the high perceptual load condition. This study is the first to demonstrate perceptual load effects on awareness in an applied setting and has important implications for road safety and future applied research on the perceptual load model.