

# The Visual Search Patterns and Hazard Responses of Experienced and Inexperienced Motorcycle Riders

## Abstract

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Hazard perception is a critical skill for road users. In this study, an open-loop motorcycle simulator was used to examine the effects of motorcycle riding and car driving experience on hazard perception and visual scanning patterns.

Three groups of participants were tested: experienced motorcycle riders who were experienced drivers (EM-ED), inexperienced riders/experienced drivers (IM-ED), and inexperienced riders/inexperienced drivers (IM-ID). Participants were asked to search for hazards in simulated scenarios, and click a response button when a hazard was identified.

The results revealed a significant monotonic decrease in hazard response times as experience increased from IM-ID to IM-ED to EM-ED. Compared to the IM-ID group, both the EM-ED and IM-ED groups exhibited more flexible visual scanning patterns that were sensitive to the presence of hazards.

These results point to the potential benefit of training hazard perception and visual scanning in motorcycle riders, as has been successfully demonstrated in previous studies with car drivers.