

Extended Evaluation of Training Programs to Accelerate Hazard Anticipation Skills in Novice Teen Drivers Dataset

Dataset available at: <https://doi.org/10.7910/DVN/LI4RO7>

(This dataset supports report **Extended Evaluation of Training Programs To Accelerate Hazard Anticipation Skills in Novice Teens Drivers**)

This U.S. Department of Transportation-funded dataset is preserved by the SAFER-SIM University Transportation Center in the SAFER-SIM Dataverse, which is a part of the Harvard Dataverse repository (<https://dataverse.harvard.edu/>), and is available at <https://doi.org/10.7910/DVN/LI4RO7>

The related final report **Extended Evaluation of Training Programs To Accelerate Hazard Anticipation Skills in Novice Teens Drivers**, is available from the National Transportation Library's Digital Repository at <https://rosap.ntl.bts.gov/view/dot/57418>

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Description: The objective of this research effort was to evaluate two driver training programs by examining young driver performance and eye movements in a driving simulator. Training program content was assessed and potential hazards were selected across both programs for inclusion in the simulator drives. These were implemented as potential hazards that did not manifest. Each study drive included the same number and types of driving situations, though the order of appearance and scenery details varied by study drive. Teens ages 15 and 16 completed a baseline study drive within two weeks of obtaining a license allowing them to drive independently without a supervisor in the vehicle. Participants were randomly assigned to one of the training conditions or to control (no training). Those assigned to training completed the respective program immediately after the baseline study drive. Participants completed a second study drive after six weeks of independent driving experience. Funding from the SAFER-SIM UTC to conduct an extended evaluation supported a third study drive that occurred after approximately 24 weeks of independent driving. At each visit, participants completed a different version of the study drive. During all study drives, participants wore a head-mounted eye tracker and simulator driving performance was recorded. Eye movement data was manually coded for a select set of driving events. In addition, the eye and simulator data were combined for three

events to create a composite measure based on Endsley's model of situation awareness [1, 2]. Generally, the analysis of driver attention and driving mitigation of potential hazards revealed few significant differences among the training and control conditions. Among the significant findings observed for ACCEL, there seemed to be a positive impact with respect to hazard anticipation and mitigation. However, ACCEL was not found to improve attention maintenance relative to control during a phone dialing task. The significant results for PALM training suggested it may be effective at helping novice drivers identify, monitor, and respond to potential hazards, especially for those hazards directly represented in the PALM training. (2021-03-01)

Subject: Engineering

Related Publication: http://safersim.nads-sc.uiowa.edu/final_reports/UI-2-Y2_Final%20Report.pdf

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Dataset description:

This dataset contains 1 .xlsx file described below.

ExtendedEvaluationEventData_ReportedDVs.xlsx:

The .xlsx and .xls file types are Microsoft Excel files, which can be opened with Excel, and other free available software, such as OpenRefine.

National Transportation Library (NTL) Curation Note:

As this dataset is preserved in a repository outside U.S. DOT control, as allowed by the U.S. DOT's Public Access Plan (<https://ntl.bts.gov/public-access>) Section 7.4.2 Data, the NTL staff has performed *NO* additional curation actions on this dataset. NTL staff last accessed this dataset at <https://doi.org/10.7910/DVN/LI4RO7> on 2022-04-13. If, in the future, you have trouble accessing this dataset at the host repository, please email NTLDataCurator@dot.gov describing your problem. NTL staff will do its best to assist you at that time.