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Acta Medica Iranica

2009;47(4) : 133-138

USEFUL FIELD OF VIEW AND RISK OF ACCIDENT IN SIMULATED CAR DRIVING

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Abstract:

This study investigated the relationship between Useful Field of View and simulator-driving performance measures. Ninety professional drivers, aged 22-65 years from several government organizations voluntarily participated at this study. Useful Field of View was measured by a computerized task was developed at the present study. The participants then performed a driving simulator task and experienced a scenario that could lead to an accident. Reaction time and speed were measured and recorded by simulator and general driving performance and collision events were recorded by examiner. The reduction of Useful Field of View based on subject's error score on Useful Field of View subtests between young and old group statistically was analyzed. Correlation analyses used to examine the relationship among the Useful Field of View as an independent variable and driving performance measures as a dependent variables. A univariate logistic regression analysis was used to determine the extent to which reduction of Useful Field of View predicts risk of accident in simulated car driving. There was a significant and negative correlation between Useful Field of View and simulator performance, on the divided peripheral subtest (Correlation Coefficient=-0.28). Student's t-tests revealed significant differences in peripheral scores of Useful Field of View subtests between accident involved and non-involved groups. The result of logistic regression indicated that 40% reduction of Useful Field of View, regardless of age, increased risk of accident involvement. Useful Field of View could be used to predict driving performance and risk of accident. The obtained result can help to identify a high risk driver which is useful to licensing authorities.

Keywords:

[Useful Field of View](#) , [driving simulator](#) , [driving performance](#) , [BRT](#)

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