

報告番号	※	第	号
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主 論 文 の 要 旨

論文題目

Study on Driving Stress and Driving Behaviors of Professional Drivers in Yangon, Myanmar

ミャンマー、ヤンゴン市におけるタクシー運転手の運転ストレスと運転行動に関する研究

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論 文 内 容 の 要 旨

Traffic accidents, deaths and injuries are ascending trend annually in Myanmar. Traffic injuries are one third of all injuries reported by hospital. As a result, road safety is a critical issue in Myanmar. Numerous researchers identified that the main reasons of traffic accidents are driving stress and driving behavior. However, there are still rare public experimental research about driving stress, driving behaviors and its effect on accident involvements in Myanmar. The purpose of this study is to analyze different driving stresses on various roadway conditions in Yangon, Myanmar by using heart rate variability (HRV), to study Myanmar Professional driver' behaviors, to investigate the relationship between unsafe driving behaviors, accident involvement, and driving behaviors related to stress, to know the impact of age, driving hours per week, driving experiences, driving stress, driving behaviors related to stress, and unsafe driving behaviors on accident involvement and to evaluate the impact of roadway conditions and land-use on the driving stress and give some suggestions for reduction of the driving stress.

The results showed that drivers experience different driving stresses depending on various roadway conditions. In particular, highly crowded places and those requiring attention such as mixed roads, lane-changing points, jaywalking pedestrian places, rough and bad pavements, traffic congestion areas, and flyover are the most stressful segments along the roadway for drivers. A two-factor clarification such as violations and errors for the unsafe driving behaviors was accounted for 36.4% of the variance and a three-factor

structure for driving behavior related to stress composing of aggressive driving, exaggerated safety/cautious driving, and anxious driving, which accounted for 43.9% of the variance. There is a relation among age, driving experiences, driving hours per week, violation, aggressive driving and accident involvements. Only the aggressive driving has a strong effect on the violation. Driving stress, driving hours per week and driving experiences affect driving behaviors and lead to traffic accidents. Specifically, using roundabouts and traffic lights at intersections and increasing the number of lanes are the effective ways to reduce driving stress. Roundabouts rather than traffic lights are more efficient. Conversely, industrial zones are increasing effect on driving stress.