ABSTRACT

The high number of traffic accidents, especially those involving motorcyclists, is an important background for studying cognitive factors such as Situation Awareness (SA), which is the ability of riders to understand and respond effectively to traffic conditions. This study aims to compare the level of Situation Awareness (SA) of conventional and electric motorcycle users in Surabaya city using the SART method and there is a significant difference between the level of Situation Awareness (SA) of electric motorcycle users and conventional motorcycle users in Surabaya city. The type of research used is a quantitative approach. The method used is the SART (Situation Awareness Rating Technique) method. The sample used amounted to 100 respondents who used electric motorbikes and conventional motorbikes in Surabaya. The sampling technique in this study used convenience sampling. The data analysis used in this research is descriptive statistical analysis, instrument test, and non-parametric infrential statistical test because the data is not normally distributed. This research uses SPSS version 26 for windows. The results showed that overall, conventional motorcycle users had a higher mean SA value of 17.53 compared to electric motorcycle users of 16.82. This study states that there is a significant difference between conventional motors and electric motors with a value of 0.003 <0.005. This indicates that the technical characteristics of the motorcycle, riding experience, and adaptation to the digital system affect users' SA level. This research contributes to the development of SA-based driving safety education strategies, especially during the transition to the use of electric vehicles in Indonesia.

Keywords*: Electric Motorcycle, Conventional Motorcycle, Situation Awareness, SART.*