

INTISARI

Transportasi merupakan hal penting dalam menunjang aktivitas dan mobilitas manusia. Seiring meningkatnya aktivitas maka penggunaan transportasi dalam masyarakat juga meningkat. Hal ini menyebabkan peningkatan permasalahan transportasi, salah satunya kecelakaan lalu lintas. Kecelakaan lalu lintas dapat terjadi karena beberapa faktor. Namun faktor utama yang mendominasi terjadinya kecelakaan lalu lintas disebabkan oleh faktor manusia. Kurangnya *Situational Awareness* (SA) telah diidentifikasi sebagai penyebab peningkatan kecelakaan karena faktor manusia. SA adalah kepekaan dan pemahaman seseorang terhadap elemen-elemen lingkungan sekitar dalam waktu dan ruang yang sama. Tujuan penelitian ini adalah mengidentifikasi pengaruh visual dan *cognitive distraction* terhadap SA dan kinerja pengendara mobil.

Penelitian ini dilakukan terhadap 15 responden laki-laki dan 15 responden perempuan. Terdapat enam skenario penelitian yang dilakukan, yaitu *verbal easy*, *verbal difficult*, *Head Up Display* (HUD) *easy*, HUD *difficult*, *Head Down Display* (HDD) *easy*, dan HDD *difficult*. Pengukuran SA dilakukan dengan metode *Situational Awareness Global Assessment Technique* (SAGAT). Kinerja pengendara diukur melalui *risky behavior* yang terdiri dari empat katogori, yaitu *safe behavior*, *precaution behavior*, *hazardous behavior* dan *accident*

Hasil penelitian didapatkan bahwa variabel *visual distraction* berpengaruh signifikan terhadap SA level 1 dan SA level 3 dengan nilai *P-value* sebesar 0.000 dan 0.022. Variabel *cognitive distraction* dan interaksi antara visual dan *cognitive distraction* berpengaruh signifikan terhadap SA level 2 dengan nilai *P-value* sebesar 0.006 dan 0.013. Berkaitan dengan kinerja, SA tidak berpengaruh signifikan terhadap kinerja yang diukur melalui *risky behavior*. Namun variabel yang mempengaruhi kinerja secara signifikan adalah *visual distraction* dengan nilai *P-value* sebesar 0.004. Pada penelitian ini variabel umur, pengalaman mengemudi, dan *gender* juga tidak berpengaruh signifikan terhadap SA baik pada SA level 1, SA level 2, dan SA level 3.

Kata kunci : *situational awareness*, *visual distraction*, *cognitive distraction*, *risky behavior*, SAGAT.

ABSTRACT

Transportation is essential in supporting human activities and mobility. The use of transportation will increase, along with the increase of community's activity. Therefore, it would lead to the increasing of transportation problems, including accidents. Traffic accidents can occur due to several factors, but the main factor that dominate the occurrence of traffic accidents is human factors. Furthermore, lack of Situational Awareness (SA) has been identified as the cause of the increase of the accidents due to human factors. SA is a person's sensitivity and comprehension to the elements of the environment in the same time and space. The purpose of this study is to identify the influence of visual and cognitive distraction to the SA and performance of car driver.

This study was conducted to 15 male respondents and 15 female respondents. There are six scenarios conducted in this research, which are verbal easy, verbal difficult verbal, easy Head Up Display (HUD), difficult HUD, easy Head Down Display (HDD), and difficult HDD. The SA was measured by Situational Awareness Global Assessment Technique (SAGAT) method. Driver performance was measured through risky behavior that consists of four categories, which are safe behavior, precaution behavior, hazardous behavior, and accident.

The result shows that the visual distraction variable significantly influence SA 1 with P-value of 0.000 also SA 3 with P-value of 0.022. Cognitive distraction variable significantly influence SA 2 with P-value of 0.006. Furthermore, the interaction between visual and cognitive distraction variables significantly influence SA 2 with P-value 0.013. Then, related to the performance, SA doesn't significantly affect the performance that measured through risky behavior. However, the variable that significantly affects the performance is visual distraction with P-value of 0.004. In this study, age, driving experience, and gender variables also do not significantly affect SA 1, SA 2, nor SA 3.

Keywords: situational awareness, visual distraction, cognitive distraction, risky behavior, SAGAT.