

## INTISARI

Kereta api (KA) merupakan sarana transportasi darat yang paling sering digunakan oleh penduduk Indonesia untuk bepergian antarkota. Beberapa penumpang merupakan penumpang yang selalu *commute* dari satu tempat ke tempat yang lain. Oleh karena kesibukan atau keinginan untuk memanfaatkan waktu, penumpang KA melakukan aktivitas yang menunjang pekerjaan mereka. Aktivitas-aktivitas tersebut membutuhkan performansi dan konsentrasi yang baik. Selama berada di gerbong KA, penumpang merasakan getaran, kebisingan, dan temperatur lingkungan di dalam gerbong kereta. Penelitian ini bertujuan untuk mencari tahu pengaruh kondisi KA (getaran, temperatur, dan kebisingan) kelas ekonomi subsidi, kelas ekonomi non-subsidi, kelas bisnis, dan kelas eksekutif terhadap waktu reaksi, inspeksi visual, *mood*, dan ingatan jangka pendek.

Subjek penelitian terdiri dari sepuluh mahasiswa laki-laki yang berusia 19-23 tahun yang memiliki indeks massa tubuh normal. Penelitian ini menggunakan alat ukur berupa *vibration meter*, termometer ruang, *sound level meter*, dan *software Design Tools 3.0.0*. Subjek penelitian diajak menumpangi KA kelas ekonomi subsidi, ekonomi non-subsidi, bisnis, dan eksekutif. Selama berada di kereta dilakukan pengukuran getaran, temperatur, dan kebisingan. Subjek akan mengerjakan tes waktu reaksi, inspeksi visual, dan ingatan jangka pendek masing-masing empat kali atau empat *trial*. Masing-masing *trial* berselang sepuluh menit.

Hasil yang diperoleh adalah tidak ada pengaruh yang signifikan antara kondisi KA dengan waktu reaksi sederhana dan durasi menumpangi KA (*trial*). Tidak ada pengaruh yang signifikan antara kondisi KA terhadap inspeksi visual, namun ada pengaruh durasi menumpangi KA dengan kemampuan inspeksi visual. Semakin lama berada di KA, semakin buruk tingkat inspeksi visualnya. Ada pengaruh yang signifikan antara kondisi KA terhadap *mood*. Ada pengaruh yang signifikan antara kondisi KA terhadap ingatan jangka pendek. Namun tidak ada pengaruh durasi menumpangi KA terhadap ingatan jangka pendek.

Kata Kunci: kereta api, *commute*, getaran, temperatur, kebisingan, waktu reaksi, inspeksi visual, *mood*, ingatan jangka pendek

## ABSTRACT

*Train is a public land transportation most frequently used by Indonesian people to travel from a city to another city. Some passengers, especially commuters, want to use their time to do activities that support their work. These activities require good performance and concentration. Passengers are exposed by vibration, noise, and ambient temperature during in the railway carriage. This study aims to find out the effect of train conditions (vibration, temperature, and noise) at subsidized economy, non-subsidized economy, business and executive class to reaction time, visual inspection, mood, and short-term memory (STM).*

*Subject of this investigation consist of ten male students aged 19-23 years who had a normal BMI. This study used vibration meter, room thermometer, sound level meter, and Design Tools 3.0.0 software. The subjects were invited riding subsidized economy, non-subsidized economy, business and executive class train. While travelling by train, we measured vibration, temperature, and noise. The subject will do tests of reaction time, visual inspection, and STM four times or four trial each. There was ten minute interval between each trials.*

*The results showed that there is no significant relationship between train conditions with simple reaction time and duration of riding trains (trials). There is also no significant relationship between the condition of trains with visual inspection, but there is significant relationship between duration of riding the train with visual inspection capabilities. The longer the passengers are in train, the worse the level of visual inspection. There is a significant relationship between the condition of the train with the mood. It is also noticed that there is significant relationship between the condition of the train with STM, but no relation between the duration of riding trains with STM was found.*

*Keywords: train, commute, vibration, temperature, noise, reaction time, visual inspection, mood, short-term memory*