Physiological Responses of Driver in a Solar Heated Car Cabin

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ABSTRACT

\textbf{Introduction:} The aim of this study was to evaluate the physiological responses of the driver when he or she enter the vehicle cabin for the first time after the vehicle was put in parking slot.

\textbf{Method:} Eight healthy male students have underwent tests in vehicle cabin that have been parked two hours without any shading. Immediately after they enter the cabin, they run one of the test conditions: 1. The control condition (CON) test, which was the test that all windows’ glass in the cabin were fully lowered and AC was OFF; 2. The condition where all windows closed and AC was set at the first speed level (AC-1); 3. The condition where all windows closed and AC was set at the second speed level (AC-2). \textbf{Results and discussion:} The attempt to decrease the air temperature in the cabin by opening all the windows did not give a significant impact to the physiological responses. Conditioning the air temperature by turned ON the vehicle air conditioning would suppress $T_{sk}$ and HR but not $T_{ty}$. However, using the first or the second speed of the air conditioning did not make any significant difference in the physiological responses of the volunteers.

KEYWORDS

\textit{Air conditioning; physiological responses; skin temperature; tympanic temperature, heart rate.}