



# Driver's Performance while Texting

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# Abstract

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The objective of this study is to assess the impacts of in-the-car behaviors and text messaging and on the driving performance under naturalistic and simple roads conditions in a driving simulation. The data is presented from 28 healthy drivers of which 12 are female. The age of the participants ranges from 18-29 years with 22 years as the average age. The average driving experience 3.8 years and the participants are to complete a baseline loop a condition in which they drive normally through a real virtual environment. The next round, the participants drive a similar loop at three specified loops and three unspecified points in the course of their drive. They are expected to complete a radio turning task, type and send a message that contain Drexel University and another one that bears the message, "I am driving towards the store." Each driver's performance experience was compared during the task duration under the specified conditions.

Across these tasks, both lane management and velocity varied significantly when the drivers were engaged in more tasks. The average lane deviations were significantly greater during the task of text messaging than the baseline drive under the same road segment  $t(27)=2.9$  and  $P=0.007$ . Duration of task comparison indicated that tasks that involved text messaging took longer to complete than the radio turning task, bearing the Drexel University" taking about twice (120 sec) as much time as the radio turning task (60 sec). Unexpectedly, the findings emerged from the evaluation of time of texting using the varying

text entry model. The touch screen modality took significantly longer than all the others.

Engaging in such a secondary task at the same time operating a vehicle might have deleterious effects on the driver's performance and therefore increase the risk factors. This happens even under the simplest conditions of driving. Text messages constitute a perfect storm of risks that compares to other in-the-car tasks like turning the radio. This investigation demonstrated a detrimental effect of text messages on the driving behaviors like lane maintenance, shift of attention, and speed maintenance under relatively naturalistic and ideal driving conditions.