The Effects of Texting on Driving Safety

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Texting while driving is a major contributor to road accidents worldwide. In this experiment, a procedure was designed for measuring the safety of texting while driving, hands-on and hands-free, and comparing it to driving without texting. Tests were conducted using a driving simulator, an automated messaging program (“message bot”), and custom-designed hands-free texting app running on an Android smartphone. A set route was driven through in the simulator repeatedly, alternating between non-texting, hands-free texting and hands-on texting. The simulator recorded all road rule violations and traffic accidents which occurred. It was found that hands-on texting is between 3.4 and 10.3 times as dangerous as non-texting, with 99% confidence. This results supported the hypothesis. Hands-free texting showed no statistical difference in safety when compared to driving without texting. However, it appeared to cause an increase in minor violations, such as failing to indicate when changing lanes. This project has a possible application in the form of an educational tool for young drivers, as all software and hardware used was readily available and relatively low cost. The software could be refined into a complete solution including a driving simulator for use on a desktop computer and texting applications for use on a smartphone. Drivers could drive in the simulator while texting, and then be shown statistics based on the mistakes they made while driving. This could remove the “It won’t happen to me” attitude that many drivers have towards texting while driving.

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