

Factors influencing usage of extended functionalities on smartphone while driving

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Technological advances in mobile telephony multiply functionalities that can be used inside the vehicles. While this development offers prospects for improving safety and driving comfort (traffic information, navigation, etc.), it also raises problems of road safety linked to the risks of distraction and changes in driving behavior, as it is well known now that phone manipulations impair the driving and increase the risk of having an accident.

To quantify such usages, a representative sample of the French population of 3,189 people was interviewed online, of whom 2,843 drivers were extracted (89%) and 1,081 drivers (38%) using their phone while driving at least occasionally. Results show that frequent use predominates over occasional one confirming the generalization of phone use while driving. 36% of drivers make phone conversations which still remains the most widespread use. However, 33% of the drivers declared using their phone for other functionalities: 27% of the drivers read messages or text, 9% navigate the internet or use applications. 8% of drivers declared having already taken a picture or a selfie and 7% used social networks while driving. Using GPS applications was also reported by 21% of the drivers. New contents appear that combine text, image and sounds, as well as static content becomes dynamic. New types of exchanges also emerge via instant messaging that facilitates group communications.

First analysis shows that having frequent phone conversations while at the wheel is correlated with none of the other usages, as well as the use of GPS applications. On the other hand, texting, sending emails, taking picture, browsing the Internet or using social networks are all correlated together. If those usages are much more frequent among the younger drivers, such phenomenon is better explained as a generational effect than as age effect.

Linear regressions highlight factors of influence such as age, mileage, but also phone dependence, perceived behavioral control over phone manipulations. Drivers with the most intensive usage also tend to report more violations and aberrant behavior.

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