Understanding drivers' strategies for engaging with in-vehicle technology while driving: An interview study

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Advances in technology have allowed more information to be brought into road vehicles for drivers to utilise. Navigation, communication, efficiency and infotainment systems are now commonplace in many vehicles. Much empirical research has focused on the ability of the driver to engage with these different technologies, taking measurements of their primary driving performance alongside secondary task performance, with an aim to quantify their distractive effects. Yet, qualitative research into the decision-making processes that drivers adopt when choosing to engage with these devices has been less widely explored in recent times. Where technology has been shown to have the potential to distract the driver, the reasons behind why drivers choose to risk their safety and engage with certain devices while driving requires further investigation.

Research to date has tried to uncover possible factors that correspond to engagement decisions, with mixed findings. Lerner *et al* (2008) conducted a focus group study into strategies for in-vehicle technology use and found that drivers did not attribute particular risk to mobile phone use while driving. Yet, these focus groups were conducted in America before an enforced ban on mobile phone use was incorporated in legislation. Young and Lenné (2010) has since shown that drivers do attribute a high level of risk to mobile phone use while driving but that their decision to engage with the device depended on how likely they were to get caught rather then the associated risks. Thus, it is evident that as technology continues to advance the perceptions drivers have towards their use while driving requires further analysis, with relevance to legislation and its regulation.

Semi-structured interviews were conducted in order to determine the current views on in-vehicle technology use, including built-in features, banned devices such as hand-held mobile phones and other non-regulated technologies such as portable devices. Drivers were recruited from across three different age groups: young (18-30yrs), middle (31-49yrs), and older (50-65yrs). Younger drivers have been shown to be more willing to engage with technology (Young & Lenné, 2010) and therefore the perceptions of technology use between drivers of difference ages was of interest. The drivers' engagement strategies and the factors that influence their decision to engage with devices were explored.

The findings from this study highlight the different perceptions that drivers from different age groups have towards their ability to engage with technologies while driving and how they perceive it to effect their driving performance. The role that legislation has on the perception of risk in relation to different technology use and how this alters engagement decisions while driving is of particular interest. The findings are reviewed with respect to a wider systems approach to mitigating against technological distractions behind the wheel.

Lerner, H., Singer, J., & Huey, R. (2008). Driver Strategies for Engaging in Distracting Tasks Using In-Vehicle Technologies. (National Highway Traffic Safety Administration Report DOT HS 810 919).

Young, K. L., & Lenné, M. G. (2010). Driver engagement in distracting activities and the strategies used to minimise risk. *Safety Science*, *48*(3), 326-332.