

Observational study on driver secondary tasks in German cities

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Distraction seems to become one of the major causes of accidents. In Austria, driver distraction is recorded as a causing factor in vehicle crashes by the police. Here, in 2014, distraction was the most common cause for traffic crashes, being responsible for 38% of all crashes (VVO, 2015). One of the major sources of distraction seems to be the use of smartphones while driving. While only about 30% of the German households had at least one smartphone in 2000, the percentage has risen to 90% in 2012 (Statistisches Bundesamt, 2013). This increase may also result in an increasing use while driving. However, it is argued that this may pose no real danger because drivers are able to adapt their behaviour and use smartphones only when traffic is not very demanding and the driving situation is uncritical. As reliable information about distracted driving is still missing in Germany, the present study has two aims:

- (1) To estimate the frequency of different distracting activities while driving in Germany.
- (2) To examine whether drivers adapt their behavior to the traffic situation and whether the behavior depends on driver characteristics.

Observations were made at six locations in the city of Braunschweig, Germany between March and April 2015 and at six locations in Hannover, Germany, in May 2015. In Berlin, Germany, data was gathered at 18 locations between July and November 2015.

Overall, in 13.2% of all 11 837 observations drivers were engaged in any of the observed activities. The most frequent one was using the smartphone with 4.5%, followed by 2.9% smoking. Phoning was found in 3.9% of the observations with 2.2% with a handheld phone (which is not allowed in Germany) and 1.7% with a hands-free phone (which is allowed in Germany). Using the smartphone, either for phoning or for other activities, sums up to 8.4% of all observations.

The second question of this study was to which extent drivers adapt their behavior to the traffic situations. Overall, the frequency is a bit larger when standing (14.4%) than when driving (12.9%). Handling the smartphone, drinking and smoking is somewhat more frequent when standing than when driving. However, this pattern reverses for phoning (handheld and hands-free) and eating. Thus, there is some adaptation for some activities, but that is not large.

This study has shown that traffic observations are an effective means to gather large amounts of data about observable distraction while driving. However, the results are limited to city traffic in three major cities in Germany. Further extensions are necessary and on-going. The results show that it is necessary to increase the prevention efforts with regard to smartphone use in Germany.

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