

Distraction and driving: results from the epidemiology task of the ATLAS project: a case-control responsibility study of traffic crash injured drivers interviewed at the emergency room.

Bakiri S, Galéra C, Orriols L, Laborey M, Contrand B, Ribéreau-Gayon R, Salmi L-R,
Gabaude C, Fort A, Maury B, Lemercier C, Cours M, Bouvard MP, Lagarde E

Abstract

Objective To assess the risk associated with diversion of attention due to unexpected events or mind wandering at the wheel.

Design Responsibility case-control study.

Setting Adult emergency department of the Bordeaux University Hospital (France) from April 2010 to August 2011.

Participants 955 injured drivers presenting as a result of motor vehicle crash.

Main outcome measures The main outcome variable was responsibility for the crash.

Exposures were external distraction; internal thoughts, alcohol use, psychotropic medicine use, and sleep deprivation. Potential confounders were sociodemographic and crash characteristics.

Results Beyond classical risk factor found to be associated with responsibility, results showed that distracting events inside the vehicle (picking up an object), distraction due to driver activity (smoking) and distracting events occurring outside were associated with an increased probability of being at fault. These distraction-related factors accounted for 8% of injurious road crashes. Analysis of self-reported thoughts content showed a strong association between mind wandering and responsibility, leading to an estimated attributable fraction of 9%.

Conclusions This study provides population-based evidences of the impact of diverted attention, both by external and internal distraction, on the risk of road traffic crash. Our results

are supporting recent research efforts to detect periods of driving vulnerability related to inattention.