Accident Analysis and Prevention 41 (2009) 869–875

Contents lists available at ScienceDirect

Accident Analysis and Prevention

journal homepage: www.elsevier.com/locate/aap

Convicted of fatigued driving: Who, why and how?

Igor Radun*, Jenni E. Radun

Department of Psychology, University of Helsinki, Helsinki, Finland

ARTICLE INFO

Article history:
Received 9 November 2008
Received in revised form 26 April 2009
Accepted 29 April 2009

Keywords:
Sleepiness
Fatigue
Motor-vehicle accidents
Seasonality
Alcohol
Amphetamines

ABSTRACT

Fatigue is a major cause of road traffic accidents. However, due to the blurred concept of fatigue and the lack of reliable testing devices (cf. the breath analyzer for alcohol levels), it is extremely difficult to incorporate fatigue in operationalized terms into either traffic or criminal law. Even though the Finnish Road Traffic Act explicitly forbids driving while tired, it is done only on a general level among other factors (sickness, etc.) that impair a driver's fitness to drive (Article 63). The present study was done to investigate the circumstances of fatigue driving offenses. From the Finnish Vehicle Administration driver record database we extracted all drivers ($N = 768$) punished under Article 63 from 2004–2005. Of these drivers, 90.4% committed a fatigue-related traffic offense. Accidents, predominantly single vehicle, were the most common (92.5%) consequence of fatigued driving. Although fatigue-related accidents are thought to be serious, our data shows that most of the accidents (81.6%) did not involve personal injuries. Almost every twentieth driver was punished because his vehicle was drifting on the road. The presence of alcohol or drugs was noted in 13% of the cases. Only 3.1% of the punished drivers officially denied being tired or falling asleep. Young men ($\leq$35 yrs) represented 50% of all punished drivers. Time of day and seasonal effects were clear in this data. This study shows that even without a reliable fatigue detector and unambiguous criteria for recognizing the contribution of fatigue to accident causation, Finnish police and the courts punish a significant number of drivers every year on the basis of fatigue.

1. Introduction

Recognizing an accident as sleep related is a central problem when dealing with fatigue and sleepiness problems while driving. An adequate identification of the risk factors and risk groups is necessary to be able to conduct safety campaigns aiming at the reduction of sleep-related accidents. Prosecuting drivers on the basis of tiredness/sleepiness also depends on the validity and reliability of the accident investigation process.

The official statistics from many countries regarding fatigue-related accidents are missing because causal factors are not routinely recorded (Horne and Reyner, 1999). Furthermore, even when a checklist of accident causes is included on police accident reporting forms, it does not necessarily include fatigue as one of the choices (Knipling and Wang, 1994). Nevertheless, reanalyzing and revaluating police reports is a usual practice when estimating the number of fatigue-related accidents (e.g., Horne and Reyner, 1995). For example, in the US from 1989 to 1993, 1% of all police-reported accidents and 3.6% of fatal accidents were attributed to driver drowsiness (Knipling and Wang, 1994). Similarly, in Switzerland sleepiness was a causative factor in 1% of traffic accidents that included bodily injury or property damage in excess of 500 Swiss francs (Laube et al., 1998). In Sweden, from 1994 to 2001, 3% of single vehicle accidents reported to the police were fatigue related (Anund et al., 2002). Finally, in New South Wales, Australia about 20% of fatal accidents were found to be fatigue related (Roads and Traffic Authority, 2001).

In addition to the blurred concept of fatigue, the inexistence of a validated and reliable device for detecting the level of sleepiness (cf. the breath analyzer for alcohol levels) aggravates the work of investigating officers. Unfortunately, there is little evidence that such a device will be available in the (near) future. Therefore, investigating officers have to rely on other clues coming from the participants themselves, eyewitnesses, and the characteristics of the crash itself. However, there are no criteria for the unambiguous detection of fatigue/sleepiness as a major or contributing factor in accident causation. Whether the particular accident will be coded into official statistics as sleep related or not depends solely on police officers' subjective opinions.

When judging whether driver fatigue contributed to an accident, investigating officers, obviously, do not have direct knowledge of a driver's preaccident condition. In addition, a driver's arousal and emotional state changes after the accident and does not necessary reveal anything about the preaccident condition. Drivers might also have difficulties recollecting the period prior to the accident and

* Corresponding author at: Human Factors and Safety Behavior Group, Department of Psychology, PO Box 9, 00014 University of Helsinki, Finland.
Tel.: +358 9 19129508; fax: +358 9 19129481.
E-mail address: igor.radun@helsinki.fi (I. Radun).
URL: http://www.mv.helsinki.fi/home/radun (I. Radun).

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doi:10.1016/j.aap.2009.04.024

even the accident itself due to traumatic effects of the accident. In a case when a driver falls asleep and causes the accident, the recollection might be even poorer. Such an assumption comes from experimental results showing that subjects who fall asleep usually deny having been asleep if woken up within two minutes (Bonnet and Moore, 1982; Horne and Reyner, 1999). On the other hand, in cases when drivers are able to recall information about the causes of the accident, they do not necessarily report it. It might be that some drivers are not willing to admit to falling asleep due to the embarrassment of being labeled a bad driver or concerns about insurance and legal consequences (Corfitsen, 1999; Reyner and Horne, 1998).

How police officers attribute the cause of an accident is undoubtedly influenced by current developments in safety research and practices. As Ogden and Moskowitz (2004) pointed out, "Police descriptions of crashes are typically assigned to the cause of current interest." These authors offer an example of how through the second half of the twentieth century "inattention" became a favored explanation instead of "loss of control" for the same type of crashes at T-intersections. Furthermore, focusing on other aspects of the accident, typically on alcohol involvement, might leave the role of fatigue/sleepiness in the accident causation unnoticed (e.g., Corfitsen, 2003). However, it is well known that besides stimulatory effects, alcohol has sedative effects that are present at higher doses and at the descending phase of the BAC (blood alcohol concentration) curve (Roehrs and Roth, 2001). Even minimal alcohol consumption and increased sleepiness represent a hazardous combination (Banks et al., 2004).

Given these difficulties in defining and detecting fatigue, it is a real challenge to incorporate fatigue in operationalized terms into either traffic or criminal law. Worldwide, there are many current discussions on how this challenge can be met.

An in-depth debate on this topic was recently conducted in Australia (Victorian Government, 2004; Tasmania Law Reform Institute, 2007) and the UK (House of Commons, 2006). The biggest step toward addressing the legal responsibilities concerning driver fatigue was taken in the state of New Jersey, US, with the introduction of the so-called "Maggie's Law." Under this law, a driver who causes an accident after being awake for more than 24 consecutive hours can be convicted of second-degree vehicular homicide and sentenced to up to 10 years in prison and fined a maximum of $100,000.

The Finnish Road Traffic Act (RTA) explicitly forbids driving while tired in Article 63 (3.8.1990/676), which addresses the driver's fitness to drive: a person that does not meet the requirements for driving because of illness or tiredness or another similar reason or whose health condition no longer fulfills the requirements needed for granting a driver's license must not drive a vehicle (unofficial translation). It is unknown how many drivers are charged because of fatigued driving under Article 63 and what the actual consequences are of such fatigued driving. Therefore, the aim of the study was to describe how this law is applied in practice and to determine the circumstances of fatigue driving offenses, including the identification of risk factors and risk groups.

2. Method

2.1. Data

From the Finnish Vehicle Administration driver record database we extracted all drivers ($N = 776$) punished under Article 63 of the RTA from 2004 to 2005. Of these drivers, 632 received a punishment directly from the prosecutors, 131 from the district courts and 13 from the courts of appeal. The decisions covering the selected sample were requested from the prosecutor offices and courts in charge stationed around Finland. Court decisions in Finland are available to the public, and obtaining them for research purposes is free of charge. We obtained altogether 768 out of 776 cases (99%); due to unknown reasons only eight cases could not have been traced. More specifically, we obtained 628 out of 632 (99.4%) prosecutor decisions, 129 out of 131 (98.5%) district court decisions, and 11 out of 13 (84.6%) courts of appeal decisions.

2.2. Prosecutor and court decisions

A prosecutor decision is based on police investigation form that includes a list of predefined information to fill in (date, time, place, etc.), a short description of the offense (in police officer's own words), and in most cases an explanation of the offense and the basis for the charge. The accused has to sign the completed form and by doing so accepts what is written there; however, the accused has the possibility to give a statement providing his view of the incident, which can be contrary to the information provided by the investigating police officer. If the defendant officially contests the notification, a charge might be brought in a district court. Compared to prosecutor decisions, district court and court of appeal decisions have significantly more text and information available (e.g., eyewitness statements). They are written by the court and include the final decision, the reasoning and the grounds on which it was based, and a summary of the court process. Although for each and every case we had one type of court decision, the analysis of the whole sample was possible because all three types of court's decisions contained information (age and sex of defendant, vehicles involved, injury severity, defendant's testimony, etc.) necessary for the purpose of the research.

2.3. The law

There are a number of acts and decrees covering road safety in Finland, of which the Road Traffic Act (267/1981) is the most important. The Road Traffic Act (RTA) and the Penal Code (PC) define penalties for traffic crimes, but only the PC defines crimes leading to imprisonment. Fixed fines are used only for minor traffic offenses (e.g., slightly exceeding the speed limit); while day-fines (from 1 to 120) are the predominant form of punishment. The actual sum of a day-fine depends on the monthly income and the assets of the offender (Joutsen et al., 2001).[1] This day-fine system has been used in Finland as a form of punishment for all kinds of offenses (not only traffic offenses) since its introduction in 1921.

A very important issue regarding the Article 63 that forbids fatigued driving is that breaking it, by default, is a traffic offense that brings a day-fine punishment (RTA Art.103). However, depending on the seriousness of the offense, a fatigued driver can be charged with Endangering Traffic Safety (RTA Art. 98; PC Ch. 23, Sec. 1) and possibly with Gross Endangering Traffic Safety (RTA Art. 99; PC Ch. 23, Sec. 2). Breaking these articles brings criminal responsibility and might lead to imprisonment (see Appendix). (An unofficial translation of PC can be found at: www.finlex.fi/en/laki/kaannokset/1889/en18890039.pdf).

2.4. Data analysis

Our analysis was based on information extracted from the prosecutor and court decisions. A list of variables included sex, age and profession of the driver, date, time and place of the incident, vehicles

[1] Since traffic offenders pay fines in proportion to their incomes, without any upper limit, it is possible for someone to pay an extremely high fine for committing a traffic offense: for example, in 2004 a Finnish millionaire was fined €170,000 or $216,000 for speeding (26 days' income of €6,538) (http://news.bbc.co.uk/1/hi/business/3477285.stm).